Journal of Accounting Panorama

Vol. 03, 2016 ISSN 2362-0609

Auditing and Assurance, Financial Reporting and Taxation in Sri Lanka

Department of Accounting

Department of Accounting
Faculty of Management Studies and Commerce
University of Sri Jayewardenepura,
Nugegoda, Sri Lanka.

Journal of Accounting Panorama, Vol. 03, 2016

Auditing and Assurance, Financial Reporting and Taxation in Sri Lanka

Department of Accounting
Faculty of Management Studies and Commerce
University of Sri Jayewardenepura

Journal of Accounting Panorama
Vol. 03, 2016

Disclaimer

The responsibility for the opinions expressed in articles in this journal rests solely with their authors. They do not necessarily reflect the views of the Department of Accounting, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura.

Edited by Athula, ASPG , Ajward, AR and Cooray, TCMGMSS - Department of Accounting, Gangodawila, Nugegoda, Sri Lanka

93 pages

ISSN 2362-0609

Published by Department of Accounting

Designed and formatting:

Cover and text design by Chathura Sandeepa, 4th Year (2018-2019) , Department of Accounting, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.

Department of Accounting

Our vision

Prosper lives through learning

Our mission

To be the premier center of excellence in accounting education, research and industry engagement in South Asia

Our values

Wisdom

Intellectual rigour

Professionalism

Truthfulness & Ethical conduct

Equality

Helpfulness and Compassion

Dedicated to

Professor M. W. Wickramarachchi

for his visionary leadership

Contents

Preface

It is with a deep sense of gratitude that the Department of Accounting remembers the visionary leadership initiated by its founder, Emeritus Prof. M.W. Wickramraracchchi. Even after his retirement, he continued to render an invaluable service to the Department of Accounting through the Ernst and Young Endowed Professor Post. Towards the end of his tenure in the Department of Accounting, he introduced 'Knowledge Seeking and Learning to Learn' (KSLL) for the third and fourth year accounting undergraduates under the 'Skill Development Programme of Intern Accountants'. The objective was to inculcate within these undergraduates the urge to seek new knowledge and to keep up with the new developments taking place in the sphere of accounting and other related areas. This was to keep in line with the requirements of the International Federation of Accountants (IFAC) with regard to the role of the University in grooming academic accounting professionals.

Due to the high workload especially due to internship during the third and fourth academic years, the accounting undergraduates refrain from selecting 'research' as an elective course unit. However, through this KSLL, gradually a research culture was inculcated in these accounting undergraduates assimilating them to a research culture; downloading research articles, reading research articles and to engaging in mini-research studies under the supervision of an academic staff member of the Department of Accounting. This initiative taken by the founder of the Department of Accounting; Emeritus Prof. M.W. Wickramarachchi has presently borne fruit. In this Issue of the Journal of Accounting Panorama, there are four research articles in the fields of auditing and assurance, financial reporting and taxation in the Sri Lankan context. It is worthy of note that these four student research studies supervised by the academics of the Department of Accounting are based on the Sri Lankan context and carried out based on the positivistic and post-positivistic approaches to research.

Compiling the student research carried out under KSLL to a Journal of Accounting Panorama was the brainchild of Prof. Samanthi Senarathne. However, this endeavor would not have been a success if not for the support extended by the Head of the Department of Accounting Dr. Harendra Kariyawasam. We as editors fervently hope that the research studies incorporated in this Third Issue of the Journal of Accounting Panorama would be a contribution to the body ofknowledge.

Dr. A S P G Manawaduge, *Department of Accounting*
Co-editor

Dr. Roshan Ajward, *Department of Accounting*
Co-editor

Dr. TCMGMS Sanjeevanie Cooray, *Department of Accounting*
Co-edit

Financial Statements: Auditors' Perceptions of Responsibilities for Detecting and Reporting Clients' Illegal Acts – Deficient Performance Gap and Causes

Samarasinghe, H (erandima92@gmail.com)
Pushpakumari, C
Wijesinghe, R
Kusumika, R
Piyumika, N
Mendis, M
Wijesinghe, T
Madushanka, P
Ajward, AR

Abstract

This study focuses on whether there is a deficient performance gap in the perception of responsibilities of financial statement auditors relating to detecting and reporting clients' illegal acts in Sri Lanka and identifying the factors that create such gap. This study is significant due to the dearth of studies carried out in the area of auditors' deficient performance gap in the Sri Lankan context. Since some unfavourable incidents have been recorded causing a deficient performance gap, the research is expected to explore the gap between the guidelines prescribed in the standards and the actual delivery of the auditors relating to clients' illegal acts and the causes of such gaps. A quantitative research approach was followed and a questionnaire used to collect primary data regarding auditors' perceptions of fraud detection. The relevant theoretical guideline followed for this research was ISA 240: The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements. The self–completion questionnaire consisted of generic data and 15 vignettes describing different illegal case studies of clients. The sample consisted of auditors working as public practitioners in audit firms and the analysis was conducted using inferential and descriptive research tools for capturing standard requirements and the auditors' perceptions in a practical context.

Keywords:
Illegal acts, Auditing standards, Auditor's Responsibility, Detection and Reporting

1. INTRODUCTION

According to Bollen's observations, 2005 (cited in Hassink et al., 2010), a study of major European business failures revealed that the auditor is questioned and the audit firms are most likely to be sued in a failure to reveal management or employee fraud. The main reason for the above problem is misconception of the auditors' responsibilities in respect of financial statements. Even though the users of financial statements expect to obtain absolute assurance, practitioners are not in a position to provide such assurance due to the inherent limitations in the nature of auditing procedures. This has caused a gap between expectations of users and actual performances of auditors as clearly explained in Porter's expectation-performance gap model (cited in Hassink et al. 2010, p. 87).

According to Porter's study, 1993, (cited in Hassink et al. 2010, p. 87) an expectation gap is defined as: 'the gap between society's expectations of auditors and perceived performances of auditors'. There are two major components of the expectation gap: reasonableness gap and performance gap. Also, there are two aspects of the performance gap: deficient performance gap and deficient standard gap. This research was based on the deficient performance gap, which means the gap between the role of the auditor as per standard requirements and the actual deliverable in relation to the client's illegal acts (Hassink et al. 2010). Further, this study sought to identify the deficient performance gap in the Sri Lankan context since literature on the identification of the expectation gap regarding detecting and reporting client illegal acts is sparse.

International Standards on Auditing (ISA) 240 provides the conceptual framework used for studying the above mentioned misconception. However, according to ISA 240 (International Auditing and Assurance Standards Board 2014), the auditor's responsibility to consider fraud in an audit of financial statement which he/she audits, is not supported by a definition of the term 'client's illegal acts'. However, 'fraud' has been adequately defined as '[a]n intentional act by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage (International Auditing and Assurance Standard Board, 2014, p. 21).

Auditors are responsible for obtaining reasonable assurance to provide an opinion on financial statements that are free from material misstatements due to frauds and errors. Accordingly, an auditor is not responsible for detecting frauds but his/her responsibility is only limited to express an opinion. However, they have a responsibility to report to the relevant authorities material frauds which they come across in the course of audit procedures. The present research analysed the differences between the standard responsibilities and the auditor's actual deliverables regarding the client's illegal acts (International Auditing and Assurance Standard Board. 2014).

Research Questions

This research was designed to find out whether there is a gap between perceived performances and existing duties of the auditor as defined by the relevant law and professional standards. On the ground, some of the companies have faced bad experiences such as bankruptcy even though the practitioner followed the procedure on financial statements; this becomes a problem statement of this study. Furthermore, the research was expected to find out the main causes which contribute to the mentioned gap, if it exists. Thus, two research questions were developed as follows:

1. Is there a deficient performance gap regarding the perception of responsibilities of financial statement auditors' relating to detection and reporting clients' illegal acts in Sri Lanka?
2. What factors will create such a gap (e.g. relevant education and professional training), if it exists?

Objectives of the Study

An explanatory/exploratory study was carried out to identify whether there is a deficient performance gap in terms of external auditors' perceptions regarding responsibility for detecting and reporting clients' illegal acts in Sri Lanka and to analyse and identify causes that may create such a deficient performance gap.

Significance of the Study

Globally, several researches have been conducted on the role of the auditor regarding detection of frauds and illegal activities. However in Sri Lanka, research is sparse on the deficient performance gap. Further, Sri Lankan researchers have not been given adequate attention to identifying reasons for the deficient performance gap. On the other hand, compared to the past decade greater concern has been given for clients' illegal acts as it has become a critical area in the field of business resulting in auditors being responsible for the prevention and detection of fraud. In view of its practical and theoretical significance, this study is expected to contribute to development of the auditing profession in Sri Lanka.

Scope and Limitations of the Study

The main limitation is that only persons holding positions above supervisor level were included in the sample and may not represent all financial statement auditors. It was also difficult for individual auditors to build expertise in fraud detection since they are not experts at deciding on the legality or illegality of clients' Acts. In addition, the sample did not cover all audit firms in Sri Lanka but only those located in the Colombo area. Therefore, the sample mean may be different from the population mean.

The following section covers the existing literature on the audit expectation gap including the deficient performance gap and standards that are relevant in the context of the study. Research methodology, sample construction, research findings, conclusions and implications of the results are covered below.

2. LITERATURE REVIEW

Auditing is used as a resolving tool to harmonize agency problems. With the passage of time perceptions regarding auditors' responsibilities has changed. Therefore there is a researchable area to explore the kind of expectation gap that would prevail in respect of standard requirements and auditor's responsibility for detecting and reporting fraud and clients' illegal acts.

Requirement according to ISA 240

Auditors are particularly responsible for obtaining reasonable assurance to provide an opinion on financial statements that are free from material misstatements due to frauds and errors. Accordingly, auditors are not responsible for detecting frauds but are only bound to express an opinion. But they have a responsibility to report material frauds by those charged with governance they come across in performing audit procedures (International Auditing and Assurance Standard Board 2014).

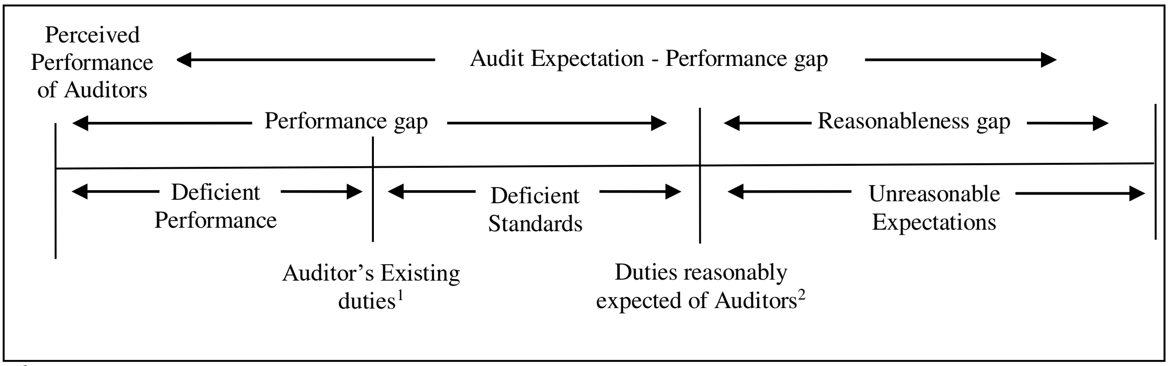
Porter's Model of Auditors' Expectation- Performance Gap

According to the model proposed by Porter in 1993 (cited in the Institute of Chartered Accountants of Scotland Edinburgh 2004) 'expectation gap' is defined as the gap that exists between society's expectations of auditors and their perceived performance.

As per Porter's study (cited in Hassink et al. 2009), two major components of the expectation gap are the reasonableness gap and the performance gap. The former depicts the gap between what society expects from an auditor and his responsibilities. The latter describes the gap between the perceived performance of the auditor and the duties reasonably expected from him/her, which imply a cost benefit.

The performance gap is sub divided into deficient standards gap and deficient performance gap. The former results from either the deficiency in standards and regulations with respect to the duties of auditors or the gap between duties defined by law and professional standards and duties which entail ac cost benefit.

Figure 1: Structure of audit expectation –performance gap



[1]*Duties defined by the laws and professional standards*

[2]*Duties which are cost beneficial for auditors to perform*

Source: Porters (1993, p. 50) (Cited in Hassink et al. 2009)

Empirical Studies

Local Empirical Studies:

A study done in Sri Lanka on the expectation gap and role of the policy setter examined the expectation differences among auditors' perceptions and users' perceptions of role of the auditor (Gunathilaka, 2012). This research study emphasises that ISA establishes the roles, responsibilities and scope of the auditor while regulatory bodies monitor the quality of the audit. It claims that auditors' negligent role may result in the expectation gap rather a misconception by society. Thus regulators need to identify and implement controls in relation to detecting and reporting clients' illegal acts.

Foreign Empirical Studies:

A study by Fraser and Lin (2004) revealed that auditors detect frauds and clients' illegal acts rather than reporting to the management and other relevant authorities. Also, it claimed that auditors recognize a higher degree of responsibility for detection of clients' illegal acts, which exceeds the requirements of auditing standards. As such, auditing standards are driven by professional self-interest and tend to be less effective. In contrast to the above view, Humphrey, Turley and Moizer (1993) claimed that professional bodies have formulated the standard way in which the detection of fraud is no longer a principal audit objective and as such it is a supplementary function to be performed on the basis of providing an opinion on corporate financial statements.

A comparative experiment was also done in Canada and UK to investigate the role and influence of auditing standards on audit practice by means of detection and reporting clients' illegal acts. Fraser and Lin (2004, p. 166) investigated the deficient performance gap in both countries. Based on the results of 15 short vignettes highlighting different client illegal acts, Fraser concluded that:

> Auditors continue to recognize a higher degree of responsibility for an illegal act involving fraud than for others and also auditors recognize some degree of responsibility for illegalities that do not fall within the scope of the auditing standards.

In addition, Leary (1990) argues that under the prevailing laws and professional standards, auditors are required to conduct audits in a manner that ensures the detecting and reporting of material illegal acts.

Although in the above studies it was claimed that auditors are responsible for fraud detection up to a certain level, some auditors totally disagree. An exploratory by Alleyne & Howard (2005) of auditors' responsibility for fraud detection in Barbados revealed that auditors strongly disagree with the statement that they are responsible for uncovering frauds of the clients whereas the users' strong view is that auditors are the responsible party. Also, in some cases the audit objective is widely misconceived because of the higher expectations from auditors in detecting and reporting fraud than statute or audit standards require (Stribu et al. 2009). This is the reason for the deficient performance gap as mentioned in the study.

In addition, Salem (2012) pointed out that management has the primary responsibility for the prevention or detection of fraud. The independent auditor must be aware that the possibility of fraud exists. But he can never be considered a guarantor of the client's financial statements because he might be misled by collusion, high expert forgery or other sophisticated deterrents.

A survey conducted by Harold, Roger and Bollen (2010) evaluated the extent to which auditors comply with standards once they encounter a fraud. It provided empirical evidence that auditors fail to comply with some important elements of standards relating to fraud and that the compliance level is based on the practice of various audit firms. On the contrary, Leary (1990, p. 252) argued that 'irrespective of the requirements of auditing standards, fraud will probably always exist' and detecting frauds is not the sole responsibility of the auditor.

Reasons for such Gap

Kassem and Higson (2012) contradict Leary (1990). The former claim that even though the public in general and users of financial statements are given a better knowledge of the role of the auditor, the expectation gap remains wide owing to two main factors, namely, limitations of professional auditing standards and external auditors not exercising enough effort to detect material misstatements arising from fraud. It was recommended that standard setters provide more guidance to external auditors regarding fraud risk assessment and responses to a situation of fraud.

Reasons for the gap have been addressed by only a few researchers since most have concentrated on the existence of the deficient performance gap. Harold, Roger and Bollen (2010) identified the causes of such deficient performance gap by emphasising the defensive steps to be taken in regard to new standards in order to educate financial statement users about their responsibility to bridge the gap. They explain the reasons for the gap as 'auditors may decide not to comply with the standards because they face conflicts of interest, or because they are careless or for efficiency reasons, or it might be they are not fully aware of what the standards require'. According to survey results, half of the auditors believed that they have a significant impact on redressing fraud.

In addition, Sweeney (1997) has provided solutions for the gap such as extra audit training to improve awareness of duties, expanding auditing standards and providing more clarity on scope and possibilities.

The literature survey shows that most of the developed and developing countries have identified a deficient performance gap in terms of standard requirements and auditors' perception of their responsibility to detect and report clients' illegal acts to a greater or lesser extent. Most of the literature have addressed the existence of the gap but not the causes of such a gap. The present study was designed to conduct survey in the Sri Lankan context aimed at identifying whether there is deficient performance gap and causes of such gap.

3. METHODOLOGY

This research study investigates the perception of financial statement auditors in detecting and reporting clients' illegal acts to ascertain whether there is a gap between duties defined by the laws and professional standards and duties truly performed by the auditors. Questionnaires were used as the main research method for gathering data from auditors in public practice.

Research Approach

The quantitative approach was used to test the deficient performance gap since the study was conducted based on the data gathered from the responses to the questionnaire, not on the observations of the researcher. Based on the deductive approach, hypothesis developed was "T**here is a deficient performance gap",** using the available literature. Additionally a questionnaire that included 7 Likert scale questions was used to obtain structured responses in order to identify the deficient performance gap.

Population and Sample

All auditors engaged in audit activities as public practitioners within the audit firms were considered the population. Auditors holding positions higher than supervisors formed the study sample. The survey was conducted using a random sample of 100 external auditors from the above stated population.

Collection of Data

Using probability sampling methodology, a well-designed questionnaire was handed over to 100 respondents and 83 questionnaires were collected implying an 83% response rate. The questionnaire was obtained from the article on 'Auditors' perception of responsibilities to detect and report client illegal acts in Canada and the UK' (Fraser & Lin, 2004). The modified questionnaire is given as an appendix.

The questionnaire consisted of two parts: Part A covered biographical information such as age, gender, educational qualification, and Part B consisted of 15 short vignettes of different illegal acts to identify the extent to which auditors recognize their responsibility to detect and report client illegal acts. In developing the questionnaire, the opinion of the supervising member was obtained and a pilot survey conducted before handing over the questionnaire to the selected sample.

Data Analysis Strategies

SPSS was used to analyse the gathered data from both sections of the questionnaire. The demographic data was analysed using descriptive statistic. The most commonly used descriptive statistics was frequencies. In analysing the responses to the scenarios in the questionnaire one sample t test technique was used. It helped to achieve the first objective by identifying whether there was a deficient performance gap or not. Regression analysis was used to identify the main causes of such deficient performance gap in order to achieve the second objective of the study.

[The average gap caused in all 15 vignettes for detection and reporting was used as the dependent variable of the regression while diverse factors (inadequacy of relevant professional education of the auditors, insufficient professional training of the auditors, lack of professional experience as an auditor, lack of due professional care, lack of professional scepticism, misunderstanding of the relevant auditing standards by the auditor, lack of clarity of relevant auditing standards, deficiencies in auditing standards, client pressure and extensive competition) were used as dependent variables of the regression. [Please check. Something wrong here.]

The regression equation tested by liner regression analysis is specified as:

Average gap for detect = $\beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + \beta_8 + \beta_9 + \beta_{10} + \varepsilon$ (1)

Average gap for report = $\beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + \beta_8 + \beta_9 + \beta_{10} + \varepsilon$ (2)

where,

$\beta_1 =$ Professional education

$\beta_2 =$ Professional training

$\beta_3 =$ Professional experience

$\beta_4 =$ Due professional care

$\beta_5 =$ Professional scepticism

$\beta_6 =$ Misunderstanding of auditing standards

$\beta_7 =$ Clarity of auditing standards

$\beta_8 =$ Deficiencies in Auditing Standards

$\beta_9 =$ Client pressure

$\beta_{10} =$ Extensive competition

4. ANALYSIS AND DISCUSSION

As explained in Section 3, the techniques used for analysis were descriptive statistics, frequency analysis, reliability test, t-test and liner regression analysis. These methods were used to explore the existence of a deficient performance gap in the perception of responsibilities of financial statement auditors' relating to detecting and reporting clients' illegal acts. Descriptive statistics and frequency analyses were used to summarize the collected data. A reliability test, one sample T test and linear regression analysis were used to identify the presence of a deficient performance gap and its causes. A detailed explanation of the analysis and discussion are presented below.

The modified questionnaire was used to achieve the first objective, namely, to identify whether there was a gap between perceived performances of the auditor and existing duties prescribed by the standard. The questionnaire included 15 short vignettes each explaining an illegal act (see Appendix). The 15 vignettes were of five groups based on the standard requirements as follows:

Cases 1 and 2 deal with the illegal acts that are outside the scope of auditing standards. These cases are helpful to recognize the degree to which auditors identify their responsibility in relation to the illegal acts that fall outside the scope of the auditing standards.

Cases 3 and 6 describe the circumstances that are not critical for carrying out the entity's operations.

Cases 4, 5 and 7 to 11 deal with illegitimacies that can be treated as having serious consequences for the financial statements of the entity. These fall within the scope of the auditing standards.

Cases 8, 9, 10 can be treated as fundamental to the operation of the organization.

Cases 12 to 15 describe the specific cases of insider dealing and fraud respectively.

Respondents had to select their insights of responsibilities to detect and report each vignette on a seven point Likert scale on which '1' indicated 'no responsibility' and '7' 'essential responsibility'

The study was mainly based on the requirements prescribed by ISA 240: auditors responsibility relating to fraud in an audit of financial statements. According to the standards, difficluties in dealing with the estimation of fraud in financial statements, not detecting management fraud is greater than not detecting an employee fraud, auditors should maintain professional skeptism to detect frauds in finacaial statements and should communicate about them with the authorities.

The standard references regarding the specified 15 vignette were as follows:

Table 1: Requirement as per ISA 240

Case Number	Responsibility to detect	Responsibility to report	Reason for decision for level of responsibility
1	1	1	Outside the scope of the auditing standard (ISA 240)
2	1	1	Outside the scope of the auditing standard (ISA 240)
3	1	1	Not material and does not affect the operations of the Company
4	7	7	Material impact on the financial statements
5	7	7	Have a serious impact on the financial statement s
6	1	1	Illegal but not critical to the operations of an entity's business
7	7	7	Serious implications for the financial statements
8	7	7	Fundamental to the operation of the entity and affects the going concern status of the company.
9	7	7	Fundamental to the operation of the entity and affects the going concern status of the company.
10	7	7	Material impact on the financial statements
11	7	7	Have a serious impact on the financial statement
12	7	7	Insider dealing and therefore could have a material impact and issues with the integrity of the management. So need to inform the shareholders.
13	7	1	Since the ROMM is high auditors need to improve further audit procedures.
14	7	7	Prepared fraudulent financial statements.
15	7	7	Fraud. Therefore need to detect and report.

Responsibility to detect and report: 1 indicates no responsibility and 7 indicates essential responsibility.

A reliability test was performed as the first step in analysing collected data to check whether they reliable or not. The questionnaire contained 15 scenarios to which respondents needed to comment on the auditor's responsibility to detect and to report clients' illegal acts. There were altogether 30 scenarios. In order to perform the reliability test, all these 30 scenarios were classified into four categories based on the prescriptions given in the standard and the test was performed separately. A summary of the results obtained is given below:

	Detect		Report	
	Should Detect	**Should not Detect**	**Should Report**	**Should not Report**
Cronbach's Alpha	.945	.725	.929	.647
No. of scenarios	11	4	11	4

Table 2: Reliability Test

If the Conbach's Alpha value is greater than .7, the data set is said to be reliable (Table 2: Reliability test). Except in one category ("Should not Report" category) the alpha value is greater than .7, meaning the data is reliable. The alpha value of one category is .647 and there is a - 0.053 difference from .7 and hence it is taken as almost .7. Therefore it is concluded that the data set is reliable and the analysis of these data is also reliable.

After identifying the reliability of the data set, one Sample t test was used to determine whether there is a deficient performance gap in relation to clients' illegal acts and frequency analysis and regression analysis were used to identify the main reasons for such gap.

Descriptive Statistics

Descriptive statistics describe the main features of a collection of information or a quantitative description of it. As the first step in the analysis, descriptive statistics were used to summarize the collected data. In descriptive statistics, central tendency and dispersion measures are used to describe the data collected from the respondents. Central tendency includes mean, median, mode, which are used to identify the deficient performance gap while the measures of dispersion such as standard deviation, variance and distribution measures are used to measure the extent of such identified gap.

The results of frequencies of various demographic factors can be summarized as follows:

Table 2: Frequency for gender

	Frequency	Percent (%)
Male	39	47
Female	44	53
Total	83	100

Table 3: Frequency for position in audit firm

	Frequency	Percent (%)
Partner	2	2.4
Director	14	16.9
Manager	18	21.7
Project Manager	15	18.1
Supervisor	34	41.0
Total	83	100.0

Table 4: Frequency for size of the firm

	Size of the firm which received the professional training as a practitioner		Size of the firm which work currently	
	Frequency	Percent (%)	Frequency	Percent (%)
In Big Four (EY, KPMG, PwC, Deloitte)	61	73.5	54	65.1
In other	22	26.5	29	34.9
Total	83	100.0	83	100.0

Table 5: Frequency for number of year of experience

	Frequency	Percent (%)
Less than 1 year	10	12.0
1 year - 3 years	32	38.6
3 years - 5 years	27	32.5
More than 5 years	14	16.9
Total	83	100.0

One sample t test is a statistical procedure which is used to determine whether a sample of observations could have been generated by a process with a specific mean and it was used to archive the first objective of the research article. Table 3 presents the mean scores and significant values for detection and reporting in each of the 15 cases, as per the respondents' perspective.

Table 6: Results of one sample t test

#	Mean		Test value	Sig. value		Result	Gap exist or not
	Detect	Report		Detect	Report		
Case 1	3.52	3.47	1	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 2	4.08	3.63	1	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 3	3.86	3.75	1	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 4	4.86	4.95	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 5	4.69	4.17	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 6	4.58	4.64	1	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 7	4.86	4.93	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 8	5.3	5.42	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 9	5.47	5.47	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 10	5.33	5.18	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 11	5.33	5.41	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 12	5.19	5.31	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 13	5.28	5.49	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 14	5.28	5.69	7	0.000	0.000	Ho rejected as sig < 5%	Yes
Case 15	5.61	5.8	7	0.000	0.000	Ho rejected as sig < 5%	Yes

Source: Author constructed

The analysis focused on identifying deviations from the test value of 1 or 7 with a sample mean value of each circumstance. 1 indicates that there is no responsibility to detect/report and 7 indicates that there is essential responsibility to detect/ report clients' illegal acts. As the results of one sample t test indicate, all cases of clients' illegal acts are significant (p<.05) and produce a mean which deviates from the test value leading to rejecting the null hypothesis and the conclusion that there is difference between the sample mean and the population mean. This implies the presence of a deficient performance gap between perceived performance of the auditors and required duties defined by relevant auditing standards in relation to clients' illegal acts.

According to the results of the test, the significant value for all cases is less than 5%; therefore, the null hypotheses is rejected and it can be concluded that in all the cases the sample mean is not equal to the population mean. Thus, it is concluded that there is a gap between perceived performances of auditors and their existing duties as defined in the relevant professional standards laid down by the International Auditing and Assurance Standards Board in relation to clients' illegal acts. Thus the first objective of the research is achieved

The second objective was to identify the reasons for deficient performance gap; this was done through a frequency analysis. In addition, a regression analysis was used for further analysis.

Table 7: Frequency of causes of deficient performance gap

Reasons for the deficient performance gap	Frequency of response	Percentage
Inadequacy of relevant professional education of the auditors	58	70%
Insufficient professional training of the auditors	52	63%
Lack of professional experience as an auditor	52	63%
Lack of due professional care	26	31%
Lack of professional skepticism	25	33%
Misunderstanding of the relevant auditing standards by the auditor	19	23%
Lack of clarity of relevant Auditing standards	25	30%
Deficiencies in Auditing Standards	11	13%
Client pressure	1	1%
Extensive competition	1	1%

Source: Author constructed

The second objective was to determine the causes of the deficient performance in terms of external auditors' perceptions of their responsibilities for detecting and reporting clients' illegal acts. In the latter part of the distributed questionnaire following the fifteen vignettes, it had been clearly stated that the deficient performance gap is the gap between the perceived performance of the auditors and their required as defined in the auditing standards in relation to clients' illegal acts. Of the specific answers provided, the majority (80%) indicated the inadequacy of relevant professional education of the auditors as the main reason for such gap. Another 63% of respondents referred to both insufficient professional training of auditors and lack of professional experience as an auditor as contributing to the identified deficient performance gap.

In addition to the above, lack of due professional care, lack of professional scepticism, misunderstanding of the relevant auditing standards by the auditor and deficiencies in auditing standards are other reasons for the deficient performance gap whereas the lack of clarity of relevant auditing standards exerts very little impact on such gap. Two respondents have also stated that extensive pressure from clients and extensive competition have an effect on auditors' perception of responsibilities to detect and report clients' illegal acts.

Finally, it can be stated that there are three main factors that may lead to auditors' perception of responsibilities to detect and report client illegal acts, namely, inadequacy of relevant professional education of auditors, insufficient professional training of auditors, and lack of professional experience as auditors.

Regression analysis is used to predict relationships between and more the explanatory power of independent variables in relation to dependent variables. This research study used regression analysis to meet the second objective of exploring the causes of the deficient performance gap in terms of the gap between perceived performance and expected performance of auditors. The average gap arising from all the 15 vignettes for detection and reporting can be used as a dependent variable of the regression and the diverse factors (inadequacy of relevant professional education of the auditors, insufficient professional training of the auditors, lack of professional experience as an auditor, lack of due professional care, lack of professional scepticism, misunderstanding of the relevant auditing standards by the auditor, lack of clarity of relevant Auditing standards, deficiencies in auditing standards, client pressure and extensive competition) can be used as a [dependent? independent? Please check] variable in the regression.

Regression equation tested in linear regression analysis is specified as:

Average gap for detect = $\beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + \beta_8 + \beta_9 + \beta_{10} + \varepsilon$ (1)

Average gap for report = $\beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + \beta_8 + \beta_9 + \beta_{10} + \varepsilon$ (2)

Where,

$\beta_1 =$ Professional education

$\beta_2 =$ Professional training

$\beta_3 =$ Professional experience

$\beta_4 =$ Due professional care

$\beta_5 =$ Professional scepticism

$\beta_6 =$ Misunderstanding of auditing standards

$\beta_7 =$ Clarity of auditing standards

$\beta_8 =$ Deficiencies in Auditing Standards

$\beta_9 =$ Client pressure

$\beta_{10} =$ Extensive competition

The results of the regression analysis are presented in the following table.

Table 8: Multiple regression analysis

Variables	Average gap for detect[a]		Average gap for report	
	Coef.	p-value[b]	Coef.	p-value[b]
Inadequacy of relevant professional education of the auditors	0.144	0.201	0.235	0.035**
Lack of professional experience as an auditor	0.136	0.262	0.085	0.476
Lack of due professional care	0.068	0.556	0.133	0.243
Lack of professional scepticism	-0.1	0.395	-0.082	0.474
Misunderstanding of the relevant auditing standards by the auditor	0.187	0.137	0.177	0.151
Lack of clarity of relevant Auditing standards	0.015	0.903	-0.034	0.768

Deficiencies in Auditing Standards	-0.297	0.021**	-0.262	0.037**
Client pressure	0.138	0.303	0.114	0.274
Extensive competition	0.128	0.25	0.18	0.1*
R square	0.158		0.191	
F value	1.52		1.919	
N	83		83	

[a] Average gap based on a 7- point Likert scale
[b] Significant levels indicate as follows: * Significant at $p \leq 0.10$; **Significant at $p \leq 0.05$; *** Significant at $p \leq 0.01$.
Source: Author constructed

Regression results obtained by comparing factors could lead to a deficient performance gap and the average of the gap arising from all 15 vignettes in terms of detection and reporting denote the inadequacy of the relevant professional education of the auditors and deficiencies in auditing standards, which have a *p*-value of less than 5%. Therefore, it is concluded that these two variables exert a significant influence over the existence of the deficient performance gap. Other factors do not directly help to identify the gap between perceived and required performance.

The literature reveals a lack of concern for the causes of the gap between financial statements and auditors perceptions of their responsibility to detect and report clients' illegal acts whereas this research focuses on both the existence of a deficient performance gap and its causes.

5. CONCLUSION, LIMITATIONS AND FUTURE DIRECTIONS

The research is designed to find out whether there is a gap between perceived performances of auditors and existing duties of the auditor defined by the relevant law and professional standards. Furthermore it is expected to find out the main causes which lead to the gap, if it gap exists. For this purpose, the study empirically evaluated the results of financial statement auditors' perceptions of responsibilities to detect and report client illegal acts. As the initial step of the research, two research questions were developed as follows:

1.1 Is there a deficient performance gap regarding the perception on responsibilities of financial statement auditors' relating to detect and report client illegal acts in Sri Lanka?

1.2 What are the factors that create such gap (e.g. relevant education and professional training), if such gap exists?

In order to achieve the research objectives the modified questionnaire was used; it included 15 short vignettes in relation to the clients' illegal acts. Using probability sampling methodology, a well-designed questionnaire was distributed among 100 respondents and 83 completed questionnaires were returned.

This study was mainly driven by the requirements prescribed by ISA 240: auditors responsibility relating to fraud in an audit of Financial Statements. Firstly, standard guidelinesses were identified for the given 15 vignettes and thereafter a reliability test was performed as the first step in analysing the collected data in order to recognise whether they are reliable or not. As the Conbach's Alpha value was greater than 0.7, it was concluded that the data set was reliable and also that the analysis based on the data was correspondingly reliable.

Descriptive statistics were used to summarize the collected data. Primarily a frequency analysis was used to analyse demographic factors such as gender, respondent's position in the firm, size of the firm used for professional training and currently working in and the length of experience of the practitioner.

A Sample t test was the core technique used to determine whether there was a deficient performance gap in relation to clients' illegal acts. According to test results, significant values for all cases were less than 5%, and hence the null hypotheses were rejected. It was identified that there was a gap between perceived performances and existing duties of the auditor defined by the relevant professional standards in relation to clients' illegal acts as in all the cases the sample mean was not equal to the population mean. Thus, the first objective of the research was achieved.

Frequency analysis and regression analysis were used to find the foremost reasons for a deficient performance gap. The frequency analysis revealed the inadequacy of relevant professional education of auditors as a core reason for such gap. In addition, insufficient professional training of the auditors and lack of professional experience as an auditor have also contributed to the gap.

Regression analysis was used for further elaboration of second objective of the research. The results of the regression analysis indicated that demographic factors and stage of professional education of the respondents impacted the gap. There was no relationship with other demographic factors and between the dependent variable and the independent variable. Furthermore, the results confirmed the inadequacy of the relevant professional education of the auditors and deficiencies in auditing standards as important factors that lead to such gap. Other factors do not directly affect the gap between perceived performance and standards requirement. Thus, the second objective of the research was achieved.

Finally, the results in respect of the given cases appear to indicate that there is a deficient performance gap in the perception of responsibilities of financial statement auditors to detect and report clients' illegal acts. Also, lack of relevant professional education among the auditors, insufficient professional training and lack of professional audit experience are the main causes of such gap.

However, there the limitations of the study have to be acknowledged. The main limitation was that ,only persons holding position higher than supervisor level were included in the sample. It may not cover all financial statement auditors engaged in audit activities since this study concentrated mainly on identifying the gap in the perceived performance of auditors actively participating in providing audit opinion. This is because the research is expected to reflect the perception of auditors who are in a position to affect opinion on financial statements. The second limitation is the difficulty for individual auditors to build up expertise in fraud detection and not including all the audit firms in Sri Lanka in the sample and in answering the questionnaire based on their own interpretation of the question. Due to the limitations stated above, it is recommended that an in-depth study using the case study method is carried out.

This study was concerned only with the reasons for the deficient performance gap identified at the undergraduate level and there may be factors at the public practice auditors' level which are not identified through the questionnaire. And also, the findings reported in this provide some insight into regulatory expectations of auditors, the perceived standard of their work, and the extent to which those expectations are not being fulfilled by the auditors. Further it has not concentrated sufficiently on social and practical considerations related to the responses provided by auditors. Accordingly, the need continues to explore further reasons for the deficient performance gap in order to reduce such gap. It will help to provide reliable and detailed guidelines through audit regulations to ensure a positive contribution to addressing the overall audit expectations gap.

REFERENCES

Alleyne, P & Howard, M 2005, 'An exploratory study of auditors' responsibility for fraud detection in Barbados', *Managerial Auditing Journal,* vol. 20, no. 3, pp. 284-303.

Fraser, IAM & Lin, KZ 2004, 'Auditors' perception of responsibilities to detect and report client illegal acts in Canada and the UK: A comparative experiment', *International Journal of Auditing*, vol. 8, pp. 165-184

Gunathilaka, AGC 2012, 'Audit expectation gap in Sri Lanka: the role of policy Makers', *International Journal of Multidisciplinary Research,* vol. 2, no. 10, pp. 1-12.

Hassink, H, Meuwissen, R & Bollen, L 2010, 'Fraud detection, redress and reporting by auditors', *Managerial Auditing Journal*, vol. 25, no. 9, pp. 861-881.

Hassink, HFD, Bollen, LH, Meuwissen, RHG & Vries MJD 2009, 'Corporate fraud and the audit expectations gap: A study among business manager', *Journal of International Accounting, Auditing and Taxation,* vol. 18, pp. 85-100.

Humphrey, C, Turley, S & Moizer, P 1993, 'Protecting against detection: The case of auditors and fraud', *Accounting, Auditing and Accountability Journal*, vol. 6, no. 1, pp. 39-62.

International Auditing and Assurance Standards Board 2014, *Handbook of international Quality Control, Auditing, Review, Other assurance, and related Services Pronouncements*, International Federation of Accountants, New York.

Kassem, R & Higson, A 2012,'Financial reporting fraud: are standards setters and external auditors doing enough', *International Journal of Business and Social Science,* vol. 3, no. 19, pp. 283-290.

Leary, JJO 1990, 'The auditors' responsibility to detect errors, irregularities, and illegal acts by clients', *Journal of Corporate Accounting and Finance*, pp. 239-253.

Salem, MSM 2012, 'An overview of research on auditors' responsibility to detect fraud on financial statements', *The Journal of Global Business Management,* vol. 8, no. 2, pp. 218-229.

Stirbu, D, Moraru, M, Farcane, N, Blidisel, R & Popa, A 2009, 'Fraud and errors. Auditors' responsibility levels', *Annales Universitatis Apulensis Series Oeconomica,* vol. 11, no. 1, pp. 54-64.

APPENDIX

External Auditors' perceptions of responsibilities to detect and report clients' illegal acts

Opinions differ as to the extent of the responsibility that should be assumed by external auditors for the detection of clients' illegal acts and, in particular, those acts that are relatively remote from the financial statements. This research seeks to elicit the opinions of financial statement auditors on this subject and we are grateful if you would assist us in this work by completing this questionnaire. Here the financial statement auditor is defined as the person who is engaged in public practice and who can influence providing an audit opinion. *If you are an audit trainee you are not required to fill this questionnaire.

Part A: Biographical Information

1. Gender : 1. Male ☐ 2. Female ☐

2. Age : …………… (Please specify in years)

3. Position in your firm :
   1. Partner ☐
   2. Director ☐
   3. Manager ☐
   4. Project Manager ☐
   5. Supervisor ☐
   6. Other ☐
   7. If "Other", Please specify …………………………..

4. Level of Monthly Income :
   1. Less than Rs.50,000 ☐
   2. Rs.50,001 - Rs.100,000 ☐
   3. Rs.100,001 - Rs.150,000 ☐
   4. Rs.150,001 – Rs.200,000 ☐

5. Rs.200,001 – Rs.250,000
6. More than Rs.250,001

5. Highest Academic Education Level:
1. G.C.E Advanced Level
2. First Degree (Basic Degree)
3. Postgraduate diploma
4. MSc / MBA
5. MPhil
6. PhD
7. Other
8. If "Other", please specify ………………………...

6. Highest Level of Professional qualification/s. (If you have multiple qualifications, please indicate all)

Professional Courses	Foundation	Intermediate	Final	Passed Finalist	Member
a. CA Sri Lanka					
b. CIMA					
c. ACCA					
d. CMA					
e. CIM					
f. SLIM					
g. CFA					
h. BCS/ ACS					
i. ……………… (please specify)					
j. ………………. (please specify)					

7. Please indicate the size of firm from which you predominantly received the professional training as a practitioner:
1. In 'Big Four' (EY, KPMG, PwC, Deloitte)
2. In Other ……………………………. (Please specify)

8. Please indicate size of firm for which you work currently:

1. In 'Big Four' (KY, KPMG, PwC, Deloitte) ☐
2. Other …………………………….... (Please specify) ☐

9. Number of years of experience (since the day on which you had ability to influence audit opinion):

1. Less than 1 year ☐
2. 1 year - 3 years ☐
3. 3 years - 5 years ☐
4. More than 5 years ☐

Part B: Scenarios on Illegal Acts

The following pages present 15 cases each one of which describes an illegal act (or series of illegal acts) that, you may assume, has been committed by an audit client. Some of the scenarios presented are similar to each other but we ask that you treat each separately. You should not assume any information other than that given. You are asked for each case to:

(a) Indicate on a scale of 1 to 7 (1 – no responsibility to detect; 7 – essential to detect) how you would perceive your responsibility as an auditor to detect the illegal act that has been described.

(b) Assume that you, as an auditor, have detected the illegal act that has been described. Indicate on a scale of 1 to 7 (1 – no responsibility to report; 7 – essential to report) how you would perceive your responsibility to report the illegal act to an appropriate third party, e.g., a regulatory agency or the police.

1 A director of a public listed company has been found guilty (and heavily fined) for an assault (physical attack) committed when on holiday in Thailand. There is no previous evidence of similar misdemeanors (bad behaviour) by directors of the company.

Auditor's Responsibility to
1 = no responsibility
7 = essential responsibility

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

2 A director of a publicly listed company has been importing 'hard' drugs (e.g., heroin). This has not been done in company time and nor has the director used company assets to facilitate the illegality. You are aware that within the company there appears to be a general management ethos (culture) of disregard for the law.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

3 The drivers of a manufacturing company's commercial transport fleet have been in breach of the regulations on drivers' maximum working time. This has been to the mutual self-interest of both the company and the drivers who have been encouraged in the perpetration (to perform) of the illegality by management. The company has only a very small transport fleet relative to the size of the company and most of the company's products are delivered by rail. The penalty in the event of conviction is not likely to be material, nor is the successful operation of the company likely to be affected.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

4 The drivers of a wholesale distribution company are frequently in breach of the regulations on drivers' maximum working time. The company's goods are distributed almost exclusively by the company's own fleet of vehicles. A conviction for the offence would result in a substantial fine. Cessation (stopping) of the practice would have a material impact on the financial statements although the going concern status of the company would be unaffected. As the auditor, you are aware that there may have been similar breaches of legislation by the company in the past.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

5 The drivers of a privately owned haulage (transport) company regularly breach the regulations on drivers' maximum working time. As auditor, you are not aware of any similar breaches of legislation by the company in the past. This practice is embedded in the company's *modus operandi* (procedure) and cessation would mean that profitable operation of the company would be difficult, if not impossible.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

6 The directors of a private company engaged in the distribution of telephone directories and associated publications to private households were fined for employing children under age in excess of the maximum number of working hours per week. The breaches of the legislation were isolated occurrences and the fines imposed were not material in the context of the company. As the auditor, you are unaware of any other similar breaches of regulations by the company.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

7 The directors of a private company engaged in the distribution of telephone directories and associated publications to private households are systematically employing children under age in contravention (breach) of the relevant legislation and during school hours. A conviction for, and cessation of, these illegal practices would not threaten the going concern status of the company. However, the fine imposed by the courts is likely to be a substantial one. As the auditor, you are aware that local politicians have expressed concern about the widespread practice of employing child labour by local firms and the effect that it is having on school attendance.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

8 A quarrying (mining) company is in breach of a prohibition order placed upon the company forbidding the operation of a quarry that had previously been found to be unsafe. You are unaware of any other violations of health and safety regulations or of similar legislation by the company. The quarry is the only one operated by the company and discovery of the breach of the order by the authorities would not only result in a substantial fine but also would be likely to affect the going concern status of the company.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

9 A quarrying (mining) company is in breach of a prohibition order placed upon the company forbidding the operation of a quarry that had previously been found to be unsafe. You are aware that the company has committed other breaches of health and safety regulations and similar legislation in the past and that, in addition, there is a general ethos (culture) within the company of flouting (breaking) laws and regulations. Exposure and cessation (stopping) of operations at the unsafe quarry would result respectively in a heavy fine and a material impact upon the financial statements. However, the quarry is one of five operated by the company and its going concern status would be seriously threatened.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

10 A quarrying company is in breach of a prohibition order placed upon the company forbidding the operation of a quarry that had previously been found to be unsafe. You are unaware of any other violations of health and safety regulations or of similar legislation by the company.

Exposure and cessation of operations at the unsafe quarry would result respectively in a heavy fine and a material impact upon the financial statements. However, the quarry is one of five operated by the company and its going concern status would not be affected.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

11 A quarrying company is in breach of a prohibition order placed upon the company forbidding the operation of a quarry that had previously been found to be unsafe. You are aware that the company has committed other breaches of the health and safety regulations and similar legislation in the past and that, in addition, there is a general ethos (culture) within the company of flouting (breaking) laws and regulations. The quarry is the only one operated by the company and its going concern status would not be affected.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

12 Two directors of listed Company ‘A’ have profited substantially by dealing in the shares of listed Company ‘B’, which was the subject of a successful takeover bid by Company ‘A’. Company ‘A’ aims to grow through an aggressive acquisitions policy, you suspect that other instances of the same kind may have taken place and the board of Company ‘A’ is apparently unconcerned about such practices.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

13 Two directors of listed Company ‘A’ have profited substantially by dealing in the shares of listed Company ‘B’, which was the subject of a successful takeover bid by Company ‘A’. There is no evidence of any similar instances having occurred, Company ‘A’ is not in the habit of making frequent acquisitions and you have a high opinion of the integrity of its directors in general.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

14 The board of directors of a listed company prepared fraudulent financial statements as a result of which the company has engaged in ‘wrongful trading’ and has subsequently collapsed with substantial debts. As auditor, you are unaware of any similar instances involving the directors in the past.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

15 The board of directors of a listed company prepared fraudulent financial statements as a result of which the company has engaged in 'wrongful trading' and has subsequently collapsed with substantial debts. As auditor, you are aware that two of the directors have convictions for similar offences in the past and that there is a general management ethos (culture) within the entity of disregard for the law.

	1	2	3	4	5	6	7
(a) Detect							
(b) Report							

16 'Deficient performance gap' means the gap between the perceived performance of the auditor and the required duties of them as defined in auditing standards in relation to the clients' illegal act

In your opinion, what are the main reasons for such deficient performance gap? (Multiple answers are allowed.)

1. Inadequacy of relevant professional education of the auditors. ☐
2. Insufficient professional training of the auditors. ☐
3. Lack of professional experience as an auditor. ☐
4. Lack of due professional care. ☐
5. Lack of professional skepticism. ☐
6. Misunderstanding of the relevant auditing standards by the auditor. ☐
7. Lack of clarity in relevant Auditing Standards. ☐
8. Deficiencies in Auditing Standards ☐
9. Others ☐
10. If "Other", please specify

………………………………………………………………………………………………
……………………………………………………………………………………………

Thank you for your co-operation.

The Impact of International Financial Reporting Standards Adoption on Value-relevance of Earnings in Listed Companies of the Plantation Sector in Sri Lanka

H.M.U.B.Wijekoon
R.K.D.Perera
I.A.M.M.Perera
A.G.K.G.K.Athauda
T.D.L. Yasas
S.A. Udeshika
P.M.Hewage
R.A.H.K.Ranasinghe
V.R.KandanaArachchi
G.W.C.Indunuwan
Senaratne, DSNP

ABSTRACT
This study investigates the impact of International Financial Reporting Standards (IFRS) adoption on value-relevance of earnings in listed companies of the plantation sector in Sri Lanka. The main objective is to identify whether the value of earnings has increased after the adoption of IFRSs in listed companies of the plantation sector in Sri Lanka. In order to investigate the impact of IFRS adoption on the value-relevance of earnings in the listed companies this study used a panel data regression analysis of 144 firms per quarter observations of share prices and earnings per share (EPS) over a period of six years before and after the adoption of IFRSs. In addition to earnings, the size of the firm and its leverage were also considered as moderating variables in explaining the share prices. The results indicate that the value-relevance of earnings had decreased after the adoption of IFRSs.

Keywords: Value-relevance, IFRS adoption, Plantation sector.

1. INTRODUCTION

Background of the study

Financial reporting means the process of providing information on an organization's financial status to its stakeholders. This information consists of the company's financial performance and financial health during a certain period. From January 1, 2012, Sri Lanka has been adopting International Financial Reporting Standards (IFRS) in line with the global trend in order to adopt a common language for financial reporting.

This study analyzes the impact of International Financial Reporting Standards (IFRS) on the value-relevance of earnings in listed companies of the plantation sector in Sri Lanka. ‘Value relevance’ is defined according to the context in which it is used. Suadiye (2012) defines it as the ability of information presented in financial statements to capture and summarize the firm’s value. Chebaane and Othman (2014) defined value-relevance as the statistical association between financial information and prices or returns. It can be measured by the statistical relations between the information in financial statements and stock market values or returns. In other words, value relevance is the ability of financial information contained in financial statements to explain stock market measures, basically share prices.

Bauman's Review of Fundamental Analysis Research in Accounting (as cited in Henrik Nilsson, 2003, p. 3), identifies four approaches to the study of value-relevance. The first is a fundamental analysis of value-relevance, which means determining the firm's intrinsic value without reference to the price at which a firm's equity is traded in the stock market. The second is a prediction of value-relevance. Information is relevant if it can be used to predict future earnings, dividends or future cash flows. This is the statistical association between information in financial statements and stock prices / returns. The third is an information view of value-relevance. Accounting information is value-relevant if it is used by investors in setting prices. Accounting information is valuable if it causes stock prices to change and has value-relevance if the stock market reacts to its disclosure. This involves the relationship between earnings and their components (earnings and book value) and stock prices. The fourth approach is a measurement view, defined as the ability to capture or summarize information that affects equity value, regardless of its source. Here both price and returns are used as market metrics and the relationship between stock returns and accounting information is analyzed over a long period.

In order to achieve the objective of this research, the relationship between EPS and the reaction of stock prices to the disclosed information (EPS) in the Financial Statements was used. This research does not seek to predict future earnings based on current financial information or to calculate the intrinsic value of stock prices traded. Accordingly, this study used the information view of value-relevance.

According to Chandrapala (2010), earnings, book value and Return on Equity (ROE) have value-relevance for the market value of securities but in Sri Lanka the most relevant variable is earning per share (EPS). Therefore in this research, EPS is used to measure the variables of the value.

Most importantly, according to CA Sri Lanka (2012), plantation companies in Sri Lanka prepared financial statements based on Sri Lanka Accounting Standards (SLAS) 32 – Plantations before 01 January 2012 after which they used International Accounting Standards (IAS) 41 – Plantations. The main difference between these two standards was the fair value principle. Instead of the historical cost method used with SLAS 32 used to record the value of biological assets, IAS 41 introduced fair value accounting. This was a significant change that affected the financial information of plantation companies, according to CA Sri Lanka (2012). Then again, a significant change like this may affect the value-relevance of financial information. Even though researchers such as Chandrapala (2013), Weerathunga and Udayakumara (2015), have conducted researches on the impact of IFRS adoption on value-relevance in listed companies of Sri Lanka, they have not specifically analyzed the impact on the plantation sector. Therefore, a research gap can be detected in relation to the plantation sector. On the other hand, the contribution of Agriculture, Forestry and Fishing to GDP is 7.9% (Annual Report of the Central Bank of Sri Lanka, 2015). Even though this shows a lower involvement, 29% of the export income of Sri Lanka is derived from the plantation sector consisting of tea, rubber and rubber-based products, coconut-based products and spices. Moreover 18.6% of the total labour force are engaged in the plantation sector implying the importance of the industry especially for a developing country like Sri Lanka. Thus, the plantation sector plays an important role in the Sri Lankan economy and hence it is important to study the impact of IFRS adoption on value-relevance of earnings in the listed plantation companies in Sri Lanka.

Research Issue

The following research questions were framed to determine whether IFRS adoption has improved the value-relevance of earnings in the Sri Lankan plantation sector or not:

1. Does the adoption of IFRS improve the value-relevance of earnings?
2. Are the earnings of large size firms more value- relevant than the earnings of small size firms?
3. Are the earnings of low levered firms more value- relevant than the earnings of high levered firms?

Research Objectives

Main objective of this study is to investigate whether IFRS adoption has improved the value-relevance of earnings in the listed Sri Lankan plantation companies. This will be done by studying the relationship between EPS and share price.

Specific Aims

1. To investigate whether the adoption of IFRS improved the value-relevance of earnings.
2. To investigate whether the earnings of large firms are more value-relevant than the earnings of small firms.
3. To investigate whether the earnings of low levered firms are more value-relevant than the earnings of high levered firms.

Significance of the Study

The significance of the study relates to two fundamental criteria, namely, theoretical significance and practical significance as these research findings will contribute to both theory and practice.

Theoretical Implications

This research is focused on discovering any association between IFRS adoption and value-relevance of earnings. Over time, researchers such as Chandrapala (2013) have conducted studies on the value-relevance of the financial information prepared according to IFRS. These studies revealed that the accounting numbers of post adoption are value-relevant but there are no previous studies relating specifically to the plantation sector. But in the Sri Lankan context, this research area is still far distant from Sri Lankan researchers and therefore the applicability of the research findings in other countries is questionable as there is no evidence relating to the Sri Lankan context. Furthermore, it is noted that Sri Lanka is a country with an emerging economy with low GDP growth. Moreover, Sri Lanka is still in the initial stage of realizing the importance of adopting IFRS for financial reporting. Finally, there is a research gap in studies of value-relevance for adopting IFRS in Sri Lanka.

Practical Considerations

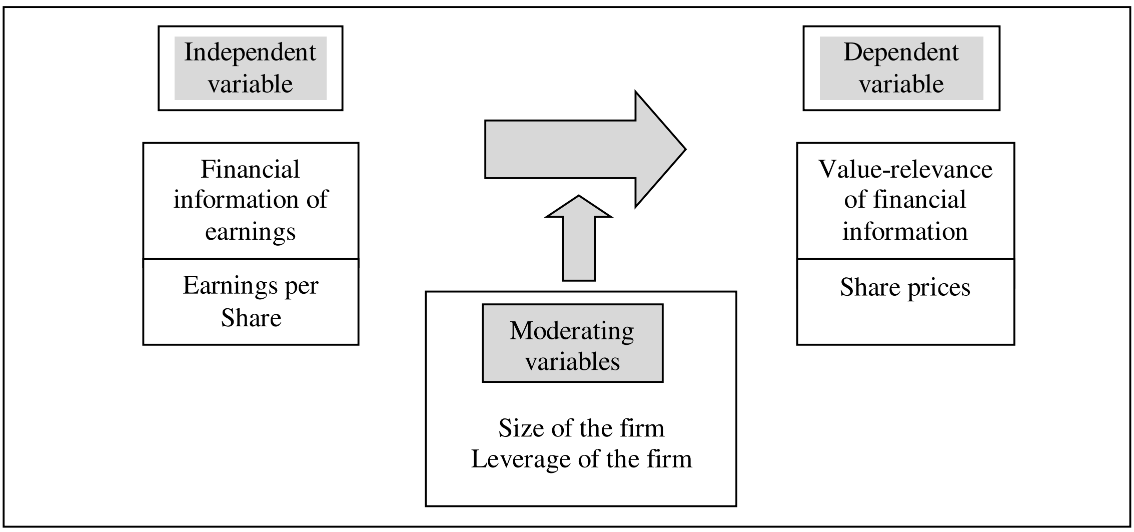
From 01 January 2012, Sri Lanka started adopting International Financial Reporting Standards (IFRS) in line with the global trend in order to adopt a common language for financial reporting process. CA Sri Lanka adopted International Financial Reporting Standards (IFRS) by issuing Sri Lanka Financial Reporting Standards (SLFRS) and Sri Lanka Accounting Standards (LKAS). Since this is a significant change in the accounting field, it has been noted that, a study of the impact of international harmonization of financial reporting standards is vital for accounting undergraduates.

In general, every organization seeks to create value for their stake holders from different perspectives. Value can be defined from many angles depending on the stakeholders concerned. Sometimes, a company with a rocketing stock price might not be making much money, but the rising price means that investors are hoping that the company will be profitable in the future, although of course there are no guarantees that the company will fulfill investors' current expectations. Most stakeholders are concerned about the company's profitability and EPS is an appropriate variable for measuring it. Therefore EPS was selected as the measuring variable in this research. The main objective of this study was to find whether there is a relationship between EPS changes and IFRS adoption. This means that this study was designed to check whether adopting IFRSs has helped plantation companies to prepare their financial statements that contain accurate information on financial performance and financial position.

Conceptual model of the study

As long as a firm's earnings can be explained by the variances in share prices, such financial information is value-relevant. This means that the earnings provide information to investors for making decisions.

Figure 1: Conceptual Model



According to Figure 1, financial information regarding the earnings of a company can be considered an independent variable and the value-relevance of such information is the dependent variable. EPS is a proxy variable of earnings while price of shares is a proxy variable of value-relevance.

On the other hand, the earnings of a company are not the only factor that affects the value-relevance of financial information. According to Chandrapala (2013), to strengthen the relationship between EPS and share price, some moderating variables such as book value of equity, earnings, ownership concentration, firm size and cash flows may be applicable. For this research, the size and leverage of the firm were used as moderating variables as shown in Figure 1 above (based on the work of Chebaane and Othman, 2014).

Statement of the hypotheses

The following hypotheses were formulated:

Objective 01: To investigate whether the adoption of IFRS improved the value-relevance of earnings.

> ***H_0:*** Adoption of IFRS has not improved the value- relevance of earnings of Sri Lankan listed companies in the plantation sector.
>
> ***H_1:*** Adoption of IFRS has improved the value- relevance of earnings of Sri Lankan listed companies in the plantation sector.

Objective 02: To investigate whether the earnings of large size firms are more value-relevant than the earnings of small size firms.

> ***H_0:*** Earnings of big firms are not more value- relevant than earnings of small firms in the plantation sector.
>
> ***H_1:*** Earnings of big firms are more value-relevant than earnings of small firms in the plantation sector.

Objective 03: To investigate whether the earnings of low levered firms are more value-relevant than the earnings of high levered firms.

> ***H_0:*** Earnings of low levered firms are not more value-relevant than earnings in high levered firms in the plantation sector.
>
> ***H_1:*** Earnings in low levered firms are more value-relevant than earnings in high levered firms in the plantation sector.

Limitations of the Study

The sample consisted of only companies listed in the Colombo Stock Exchange (CSE). However in Sri Lanka, most of the plantation companies come under the small and medium (SME) enterprise category and are not listed. Moreover, only six companies were selected for the sample due to non-availability of information.

This study is limited only to the explanatory power of EPS on share price. But for a better understanding of value-relevance, the explanatory power of Book Value per Share (BVPS), Dividend per Share (DPS), etc. should also be examined.

2. LITERATURE REVIEW

Background

As a result of the global requirement to harmonize accounting standards, more than 145 countries including Sri Lanka had adopted IFRS as at 31 December 2015, according to PWC (2015). Researchers throughout the world have conducted studies on the value-relevance of financial information and the impact of adopting IFRS on value-relevance.

Value-relevance as defined by Suadiye (2012) is the ability of information disclosed in financial statements to capture and summarize a firm's value. Chebaane and Othman (2014) also defined value-relevance as the statistical association between financial information and prices or returns. Based on above definitions value-relevance can be defined as the ability of financial information to explain stock market measures, basically share prices.

Value-relevance and adoption of IFRS

The value-relevance of accounting information has been studied from many perspectives. One such perspective is the impact of IFRS on value-relevance. Studies by Oliver and Warsame (2016), Oliver, Anderson and Warsame (2015), Espinosa (2015), Umoren and Enang (2015) and Rozainun and Ibrahim (2009) identified a positive impact of IFRS adoption on value-relevance whereas those by Negakis (2013), Padmini & Narasimhan (2012), and Ahmed & Goodwin (2006) identified a negative impact of IFRS adoption on value-relevance.

The studies which draw a negative or neutral impact of IFRS on value-relevance is less than those which draw is a positive impact. Moreover, the study by Negakis (2013) indicated that the fair value principle introduced by IFRS has a significant effect on the value-relevance of financial information.

Since these studies were done in different parts of the world, there are some inconsistencies in their findings. . According to Negakis (2013), there can be several reasons for such inconsistency: the background and context of the country in which the studies were conducted; the economic system, political system, the way rules and regulation are enforced on the system; and socio cultural factors.

Additionally, European countries like Italy and American regions have noticed financial information to be more value-relevant whereas emerging economies such as China, Africa and India have noticed financial information to be less value-relevant. Nigeria, Australia and Canada had been preparing their financial statements as per local accounting standards and adopted IFRS whereas countries such as Italy were using IFRS already when the latest IFRS was introduced.

Positive impact of IFRS adoption on value-relevance

Among the studies which found that IFRS adoption is more value-relevant, a study by Rozainun and Ibrahim (2009) is important. Their study in the European, American and African context found that book values and earnings under IFRS are value-relevant. Espinosa (2015) and Oliver (2015) have also shown that IFRS has increased the value-relevance of financial information. Similarly, Umoren and Enang (2015) in a study of the Nigerian economy indicated that the equity value and earnings of banks were relatively more value-relevant to share prices under IFRS than under the previous Nigerian SAS. This means that earnings reported by Nigerian commercial banks have become more informative to investors in determining the value-relevance of banks following IFRS adoption.

Financial information prepared under IFRS in Canada exhibited incremental value-relevance in Canadian and US GAAP reports, at least in the short-run according to Oliver, Anderson and Warsame (2015). This has been further emphasized by Oliver and Warsame (2016) with empirical evidence, based on the unique Canadian environment, that accounting information prepared and disclosed under IFRS exhibits higher price and returns value-relevance than accounting information prepared previously under local GAAP.

According Espinosa (2015), it had also been proved that there was a significant impact on financial ratios under IFRS. His study found a significant increase in financial ratios based on accounting information after adopting IFRS. This means that, in addition to improving the

financial accounting information, companies benefited from adopting IFRS by improving their financial indices.
Further, a study by Chebaane and Othman (2014) found that the role of EPS in explaining share prices became observable in the post-adoption period, meaning that EPS recorded under IFRS became more value-relevant than EPS recorded under GAAP.

Negative impact of IFRS adoption on value-relevance

A study by Negakis (2013) showed that IFRS had negative effects on the value-relevance of earnings. In particular, the available information content of both earnings and earning changes decreased after the introduction of IFRS. This reduction of information on earnings could be attributed to IFRS and, in particular, to the introduction of the fair value principle.
Padmini and Narasimhan (2012) had found in their research carried out in India that annual parent-only financial statements are value-relevant. However, wherever quarterly financial statements are available parent-only financial statements are not value-relevant according to their study.
Ahmed and Goodwin (2006) studied the value-relevance of book value and earnings in Australia. They compared the value-relevance of book value and earnings using both Australian Generally Accepted Accounting Principles (AGAAP) and Australian International Financial Reporting Standards (AIFRS) and found that AGAAP book value and earnings are more value-relevant than AIFRS book value and earnings.

Factors affecting value-relevance

According to Suadiye (2012), value-relevance can be measured through the statistical relations between information presented by financial statements and stock market values or returns. In other words, financial information is value-relevant only if such information shows a statistical relationship with share prices.
Further Chebaane and Othman (2014) identified that value-relevance is based, on the one hand, on the explanatory power of the regression of stock price on net income and book value of equity and, on the explanatory power of the regression of annual return of the net income, on the other hand. This means that financial information is value-relevant if an entity's earnings or book value of equity explains any variance occurring in share prices.
On the other hand, a study by Negakis (2013) showed that IFRS had several effects on the value-relevance of earnings.
Furthermore, Chandrapala (2013) identified giving a true and fair view of the company's operations and financial position as the main purpose of financial statements. If there is no relationship between the firm's value and numbers in the financial statements, such statements have no value-relevance. Here, firm value had been understood to be depicted by share prices.
And also, a research study by Beisland and Knivsfla (2015) suggested that the effects of IFRS adoption on value-relevance may be highly sensitive to a firm's characteristics such as size. While this study relied on observations from Africa only, the findings suggested that the effect of IFRS adoption may differ between that country and the rest of the IFRS universe, depending on the quality of the domestic GAAP used prior to IFRS adoption. The results revealed the benefits and costs of IFRS adoption in general and of intangible asset recognition and fair value accounting in particular.
Book value of equity, earnings, ownership concentration, firm size and cash flows can be listed as factors affecting the value-relevance of financial information as identified by Chandrapala

(2013). These factors can explain the variance in share prices which is directly related to value-relevance.

Sector-wise impact of IFRS adoption on value-relevance

Chandrapala (2013) examined the effect of ownership concentration and firm size on the value-relevance of earnings and book value in firms listed in the Colombo Stock Exchange from 2005 to 2009. His study sample consisted of firms in every sector of the economy but the sector-wise impact of IFRS adoption on value-relevance had not been discussed.

Srinivasan and Narasimhan (2012) examined the value-relevance of cash flows in India using a sample of 4,954 listed companies in the Bombay Stock Exchange (BSE). In this study also, the entire economy was analysed but the sector-wise impact of IFRS adoption on value-relevance was not discussed.

Chebaane and Othman (2014) examined the effect of the mandatory adoption of International Financial Reporting Standards on the value-relevance of earnings and the book value of equity using a sample of 10,838 listed companies in African and Asian emerging economies. This sample consisted of firms from six economic sectors, namely, industrial, utility, transportation, bank saving loans, insurance and other financial. These sectors accounted for the highest percentage of the GDP of each country but the researchers had not discussed the sector-wise impact of IFRS adoption on value-relevance.

Impact of IFRS adoption on value-relevance in the plantation sector in Sri Lanka

Earlier plantation companies had used SLAS 32, but with the adoption of IFRS, IAS 41 was required to be applied. The main difference is that this standard applies fair value for the measurement. Even though prior studies done on the impact of IFRS adoption on value-relevance in Sri Lankan companies by researchers such as Chandrapala (2013), Weerathunga and Udayakumara (2015), there were no research studies carried out analysing the impact in the plantation sector.

3. METHODOLOGY

Sampling design

All the listed companies in the plantation sector in Sri Lanka as at 15 July 2016 are included in the population of the study. Of the population six companies were selected on the basis of availability of information and financial information analyzed over three consecutive years before adoption of IFRS and three consecutive years after adoption of IFRS. As a result, the sample consists of 144 firm /quarter observations.

This sample was selected on the basis of the availability of financial statements for the financial years from 2009/2010 to 2014/2015. Thus, it e does not include companies closed down after adoption of IFRS, companies whose financial year ends as at 31 December, companies whose financial year end was changed from 31 December to 31 March within the period of observation. And companies that were incorporated after the adoption of IFRS.

Selection of the plantation sector as the study area

Instead of the historical cost method used under SLAS 32 to record the value of biological assets, IAS 41 introduced fair value accounting. This was a significant change that affected the financial information of the companies in the plantation sector as per CA Sri Lanka (2012). Then again, a significant change like this may affect the value-relevance of financial information. Even though research studies on the impact of IFRS adoption on value-relevance in Sri Lankan companies had been carried out by researchers such as Chandrapala (2013), Weerathunga and Udayakumara

(2015), they had not analyzed the impact in the plantation sector. Therefore, a research gap can be observed.

Collection of Data

This study used secondary sources of data regarding earnings, size (total assets) and financial leverage, obtained from the CSE website (www.cse.lk). The price data was obtained from the CSE Data Library, 2015.

Methods of Data Analysis

The value-relevance is based on the explanatory power of the regression of stock price on factors such as EPS, book value per equity (BVPS), size of the firm, leverage and cash flows. These associations introduced by Ohlson (1995) are known as the Ohlson's Price Model. If there is a link between share prices and accounting variables, such information is said to be value-relevant. This study uses the Ohlson's Price Model, which was widely used in prior value-relevance research studies by Chebaane and Othman (2014) and Chandrapala (2013) to explain the relationship between EPS or BVPS and share prices. Since main objective of this study was to examine the impact of IFRS adoption on the value-relevance of earnings, the above equation is modified as follows.

$$Pit = \alpha 0 + \alpha\, E_{it} + \alpha\, S_{it} + \alpha\, L_{it} + e_{it} \qquad (1)$$

where,
P = Market Price of Common Stock
E = Earnings per Share
S = Size of the firm
L = Leverage of the firm
i = company
t = time (year)

This study used the coefficient of determination (R^2) as the unit to measure the value-relevance of earnings. This regression model was used for the total sample and sub samples of leverage and firm size. Information available as at 31 March 2012 was used as the criterion for classifying the sample into two size-based sub samples and leverage based on them. The rationale for the creation of such sub-samples is the impact of size and leverage on the earnings of a firm.
Firms with a total asset value, which is less than the median total asset value [in the sector] of all the listed firms in the plantation sector are designated as small firms and those with a total asset value greater than the median are designated as large firms. The firms with a leverage ratio less than median in the sector are considered as low leverage firms while the firms with a leverage ratio higher than median are considered high leverage firms for the purpose of this study

4. FINDINGS AND DISCUSSION

Value-relevance of Earnings: All Firms

Table 1 presents the results of panel data regression of price on earnings, total assets and leverage of the sample. The sample consists of 144 firm /quarter observations of listed companies in the plantation sector of Sri Lanka in both pre-adoption and post-adoption periods.

Table 1: Regression Analysis of all firms

	Regression Coefficients			Coefficient of Determination (R^2)
	EPS	Total Assets	Leverage	
Pre-adoption	6.4488 (0.000)	51.9246 (0.000)	-49.8220 (0.008)	0.5510
Post-adoption	1.8009 (0.001)	27.7701 (0.005)	-21.3115 (0.012)	0.4411

** p-values are reported in parenthesis
Source: Authors' analysis based on CSE secondary data

The explanatory power (R^2) of earnings in the pre-adoption period is 0.5510 and 0.4411 in the post-adoption period. These results show a decrease in the explanatory power (R^2) in the post-adoption period indicating that the value-relevance of earnings in the plantation sector had decreased after the adoption of IFRSs. These findings are further confirmed by the research findings of Negakis (2013), Padmini and Narasimhan (2012) and Ahmed and Goodwin (2006), which show that the value-relevance of earnings had decreased after the adoption of IFRSs. However, the findings contradict those of Rozainun and Ibrahim (2009), Espinosa and Oliver (2015, Umoren and Enang (2015), who found that the value-relevance of earnings had increased after the adoption of IFRSs. Even though the value-relevance of earnings decreased after the adoption of IFRSs, EPS is a significant variable in explaining the share price in both periods ($p<0.05$). In addition to EPS, total assets and leverage are also significant in explaining the share prices in both periods.

Value-relevance of Earnings: Large Firms vs. Small Firms

Table 2 presents the results of panel data regression of price on earnings, total assets and leverage. The sample consists of 144 firm/quarter observations in both pre-adoption period and post-adoption periods. Out of these 144 firm/quarter observations, 72 are classified as large firms and the other 72 as small firms.

Table 2: Regression Analysis of large and small size firms

		Regression Coefficients			Coefficient of Determination (R^2)
		EPS	Total Assets	Leverage	
Large Size Firms	Pre-adoption	2.7741 (0.103)	178.8386 (0.000)	-10.5453 (0.846)	0.4082
	Post-adoption	1.5289 (0.008)	-8.6549 (0.594)	-5.0203 (0.613)	0.3903
Small Size Firms	Pre-adoption	4.7530 (0.018)	51.7910 (0.021)	-68.9904 (0.005)	0.3716
	Post-adoption	-.2850 (0.747)	42.7244 (0.001)	-18.6100 (0.121)	0.3389

** p-values are reported in parenthesis
Source: Author's analysis based on CSE secondary data

The explanatory power (R^2) of earnings in the pre-adoption period is 0.4082 and 0.3903 in the post-adoption period. These results show a decrease of explanatory power (R^2) in the post-

adoption period indicating that the value-relevance of earnings of the large firms in the plantation sector has decreased after the adoption of IFRSs. Only the total assets are significant in explaining the share prices of large firms in the pre-adoption period whereas EPS becomes significant in explaining share prices in the post-adoption period.
Small firms also show the same results indicating that the value-relevance of earnings in the plantation sector has decreased after the adoption of IFRSs. The explanatory power (R^2) of the earnings is 0.3716 in the pre- adoption period and 0.3389 in the post-adoption period. EPS, total assets and leverage are significant in explaining share prices in the pre-adoption period while only the total assets are significant in explaining share prices in the post-adoption period.

When the explanatory power (R^2) of small firms as well as large firms in the pre- adoption period is compared, it is apparent that large firms depict a higher explanatory power with an R^2 value of 0.4082 and small firms an R^2 equal to 0.3716. Also, in the post-adoption period, the explanatory power (R^2) of small firms is 0.3389 and of large firms 0.3903. With this information, it can be concluded that, in both pre-adoption period and post-adoption periods, large firms show higher value-relevance in earnings information in the plantation sector of Sri Lanka compared to small firms.

Value-relevance of Earnings: High Levered Firms vs. Low Levered Firms
Table 3 resents the results of the panel data regression of price on earnings, total assets and leverage. The sample consists of 144 firm/quarter observations in both pre-adoption period and post-adoption periods. Of these firm/quarter observations, 72 are classified as high levered firms and the other 72 as low levered firms.

Table 3: Regression Analysis of high levered and low levered firms

		Regression Coefficients			Coefficient of Determination (R^2)
		EPS	Total Assets	Leverage	
High Levered Firms	Pre-adoption	.9484 (0.074)	64.3341 (0.006)	-.1041 (0.992)	0.3091
	Post-adoption	.2626 (0.192)	8.5028 (0.042)	-5.4521 (0.083)	0.2703
Low Levered Firms	Pre-adoption	5.3760 (0.022)	71.2623 (0.004)	-132.2749 (0.014)	0.5010
	Post-adoption	4.8318 (0.000)	-2.5115 (0.863)	-5.5620 (0.830)	0.3994

** p-values are reported in parenthesis
Source: Author's analysis is based on CSE secondary data

In high levered firms, the explanatory power (R^2) of earnings in the pre-adoption period is 0.3091 and 0.2703 in the post-adoption period showing a decrease of explanatory power (R^2) in the post-adoption period indicating that the value-relevance of earnings in the plantation sector has decreased after the adoption of IFRSs. Only the total assets are significant for explaining share prices in both periods.

In low levered firms, the explanatory power (R^2) of earnings in the pre-adoption period is 0.5010 and 0.3994 in the post-adoption period showing a decrease of explanatory power (R^2) in the post-adoption period indicating that the value-relevance of earnings in the plantation sector has decreased after the adoption of IFRSs. EPS, total assets and leverage are significant in the pre-adoption period but only EPS is significant for explaining share prices in the post-adoption period.

Considering the explanatory power (R^2) of earnings in the pre-adoption period, it is clear that low levered firms have a much higher explanatory power than high levered firms with R^2 values of 0.3091 in high levered firms and 0.5010 in low levered firms. Even though the explanatory power decreases in the post-adoption period owing to IFRS adoption, it is evident that the same position exists in that period too; low levered firms having a higher R^2 value of 0.3994 compared to high levered firms where R^2 is 0.2703. Therefore, it can be concluded that financial information in low levered firms is more value-relevant than in high levered firms.

5. CONCLUSION

This study investigated the impact of international financial reporting standards adoption on the value-relevance of earnings in listed companies of the plantation sector in Sri Lanka. The main objective was to find out whether the value of earnings has increased after the adoption IFRSs. Results show that the adoption of IFRSs has not increased the value-relevance of earnings and that firms with low leverage have more value-relevance in earnings than high levered firms. Meanwhile, large firms show a higher value-relevance of earnings than small firms. However, this study is limited to the plantation sector and only examined the effect of IFRS adoption on earnings but accounting figures other than earnings, such as cash flow from operations and book value per equity should be considered in further research.

REFERENCES

Chandrapala, P 2013, The value-relevance of earnings and book value: the importance of ownership concentration and firm size, *Journal of Competitiveness*, vol. 5, no. 2, pp. 98-107.

Chebaane, S & Othmanb, H.B. 2014, The impact of IFRS adoption on value-relevance of earnings and book value of equity: the case of emerging markets in African and Asian regions, *Procedia - Social and Behavioral Sciences*, vol. 145, pp. 70 – 80.

Goodwin, J & Ahmed, K 2006, The impact of international financial reporting standards: does size matter? *Managerial Auditing Journal*, vol. 21, no. 5, pp. 460 – 475.

http://www.srilankabusiness.com/pdf/performance_of_exports_2014.pdf

http://www.statistics.gov.lk/samplesurvey/LFS_Annual%20Report_2015.pdf

Ibrahim, AAM & Rozainun, MH 2009, Value-relevance of book value and earnings: evidence from two different financial reporting regimes, *Journal of Financial Reporting and Accounting*, vol. 7, no. 1, pp. 1- 16.

IFRS by country 2015. Retrieved July 14, 2016, from http.//www.pwc.com.
Kargin, S 2013, The impact of IFRS on the value-relevance of Accounting information: evidence from Turkish firms, *International Journal of Economics and Finance*, vol. 5, no. 4.

Knivsfla, LABKH 2001, Have IFRS changed how stock prices are associated with earnings and book values?, *Review of Accounting and Finance*, vol. 14, no.1, pp. 41 – 63.

Mhedhbi, K & Zeghal, D 2016, Adoption of international accounting standards and performance of emerging capital markets, *Review of Accounting and Finance*, vol. 15, no. 2, pp. 252 – 272.

Negakis, CI 2013, The explanatory power of earnings for stock returns in the pre- and post-IFRS era, *Managerial Finance*, vol. 39, no. 9, pp. 814 – 824.

Ohlson, JA 1995, Earnings, book values, and dividends in equity valuation, *Contemporary Accounting Research*, vol. 11, no.2, pp. 661-687.

Oliver, N Anderson, OM & Warsame, H 2016, IFRS and value-relevance: evidence based on Canadian adoption, *International Journal of Managerial Finance*, vol. 12, no. 2, pp.136 – 160.

Peng, S & Bewley, K 2010, Adaptability to fair value accounting in an emerging economy , *Accounting, Auditing & Accountability Journal*, vol. 23, no. 8, pp. 982 - 1011.

Rozainun, MHK & Ibrahim, AAMK 2009, Value-relevance of book value and earnings: evidence from two different financial reporting regimes, *Journal of Financial Reporting and Accounting*, vol. 7, no. 1, pp. 1 – 16. Srinivasan, P & Narasimhan, MS 2012, The value-relevance of consolidated financial statements in an emerging market', *Asian Review of Accounting*, vol. 20, no. 1, pp. 58 – 73.

Suadiye, G 2012. Value-relevance of book value & earnings under the local GAAP and IFRS evidence from Turkey, *Ege Akademik Reviews*, vol. 12, no. 3, pp. 301-310.

Umoren, OA & Enang, ER 2015 ,IFRS adoption and value-relevance of financial statements of Nigerian listed banks, *International Journal of Finance and Accounting*, vol.1, no.4, pp.1-7.

Sustainability Assurance Practices among Public Listed Companies in Sri Lanka

Nirubiga, K (niru_51@live.com)
Wanigabadu, C M
Harshani, W A I
Madhushani, W S C
Kariyawasam, W H I G
Vishaka Srivanthi, D D
Kalawitigoda, K V G K
Uggallage, D K
Thushanthini, P
Gunarathne, A D N

Abstract
In response to increasing stakeholder expectations, an increasing number of companies are reporting on their corporate social and environmental performance in addition to their normal financial measures. This trend will continue as will the need for providing assurance of this additional information and the systems and processes used to generate it. The purpose of this study is to provide an overview of sustainability assurance practices in Sri Lanka among the listed public companies. Data collection and analysis was carried out in two stages. First, the published annual reports of the companies listed in Colombo Stock Exchange as of March, 2015 were analyzed. Then unstructured interviews were carried out with assurance providers. Even though sustainability assurance is little practiced, there is an increasing trend for companies to obtain assurance from external assurance providers to ensure the credibility of the published reports. Furthermore most of the companies have obtained sustainability assurance from audit firms rather than from specialized consultants. Assurance providers mostly use SLSAE 3000 as the basis to provide these assurances. None of the companies were qualified enough to obtain reasonable assurance on sustainability reporting and only limited assurances were obtained. This study contributes to the advancement of knowledge of sustainability assurance practices in developing countries, taking Sri Lanka as the case.

Key words:
Reporting guidelines, Sri Lanka, sustainability, sustainability assurance, sustainability assurance standards

1. INTRODUCTION

There is an increasing need for assurance of non-financial information as part of understanding an organization's performance against sustainable development commitments, policies and strategies. This is [relevant] to secure quality internally and to provide credible information to interested stakeholders externally. Also, this information is important for those stakeholders concerned with specific social, environmental and economic aspects of performance, and for those more interested in the impact of non- financial aspects on financial performance and valuations. Since the importance of sustainability reports was identified, we conducted this study on how sustainability assurance is practiced in Sri Lanka. At present there are no statutory or regulatory requirements for assurance in sustainability reporting in Sri Lanka. Most of the companies which prepare sustainability reports follow Global Reporting Initiative's reporting guidelines.

Research Gap

With increasing awareness of environmental issues, there has been rising demand for environmental friendly business practices.

Since sustainability reporting is not yet a mature business practice, misconceptions exist about the value that assurance offers.

- Acknowledging that certain parts of the business or particular indicators and responding to sustainable development challenges and opportunities are less developed than others to demonstrate transparency. This will actually build stakeholders' confidence and trust, rather than damage it.
- While auditing data is both valid and useful, it only covers part of the assurance spectrum. Report assurance looks to confirm not only the validity of data but also an organization's priorities. The process helps a company recognize whether or not it is placing appropriate emphasis on what matters most to stakeholders -what is material.
- Broad report assurance is expensive. Companies often spend large sums auditing their financial disclosures. As these companies are increasingly judged by more than just financial metrics, they will need to adopt similar practices and levels of assurance to ensure that non-financial disclosures are just as accurate and reliable.
- There is a paucity of research literature on sustainable assurance practices in Sri Lanka.

For these reasons we don't know enough about the sustainability assurance services practiced in Sri Lanka.

Background and Statement of the Problem

Sustainability is an emerging field in developing countries like Sri Lanka. Even though it's not a legal requirement and just a voluntary practice still companies are focusing on sustainability because businesses need sustainability and to improve the company image and public relations. Sustainability assurance is a voluntary practice followed by companies to ensure the credibility of the information provided to the public. Companies are criticized for not obtaining assurances for their sustainability reports and sometimes do not release sustainability reports except mentioning some information on websites.

In this study we try to analyze how listed public companies see the importance of sustainability assurance and how many companies are obtaining assurance at present in Sri Lanka.

Objectives of the Study

The objective of this research is to provide an overview of sustainability assurance certification in Sri Lanka and how the practice is maintained.

The following are the main objectives of this study:

I. To provide a brief overview of development of sustainability reporting assurance practices in Sri Lanka.

II. To provide evidence on current assurance practices adopted by assurance providers in Sri Lanka.

III. To provide guidelines for develop policies which are relevant to sustainability assurance practice in Sri Lanka.

IV. To identify the challenges faced in development procedure for sustainability assurance practice in Sri Lanka.

Significance of the Study

The term "sustainability" includes environmental, social and economic aspects but there is no clarity as to what it actually means and how it should be carried out in practice. While sustainability assurance is a growing market that the audit profession is interested in continuing to dominate, the actual practice is not as clear as a financial audit. This can lead to uncertainty among practitioners about what is expected of them and what the assurance process should look like. With increasing awareness of environmental issues, there is a rising demand for environmental friendly business practices.

Furthermore, it is problematic for auditors to interpret the meaning of terms such as 'competence' even if it is addressed and defined in existing assurance standards. While much research has been conducted on the standards and on the content of sustainability reports, little research has focused on how sustainability assurance practices operate in Sri Lankan public listed companies.

The relevance of this study is that it assesses how sustainability assurance practices work in Sri Lanka, which according to the generally accepted standard requires the assurance of sustainability reports. In summary, the intent of this paper is to investigate how Sustainability Assurance Practices operate in Sri Lankan public listed companies.

Scope and Limitations of the Study

This study has two specific limitations: first, the assessment is limited to the companies listed in the Colombo Stock Exchange, and the findings may not necessarily reflect the sustainability reporting practices of non-listed companies; and second, the content analysis techniques of annual and sustainability reports may have specific limitations. Holsti (1969, p. 14) offers a broad definition of content analysis as 'any technique for making inferences by objectively and systematically identifying specified characteristics of messages'. Content analysis has its own limitations such as the risk of capturing an incomplete picture of the company's business, but it is also widely recognized and accepted as a research instrument. Limiting the study to the assessment of sustainability reporting in the annual reports, sustainability reports and company web sites is justified because such reports are considered important corporate governance and stakeholder documents produced by companies. Indeed, these reports afford companies the opportunity to communicate with their investors and their stakeholders at large.

2. LITERATURE REVIEW

Sustainability

The concept of sustainability originally started in Forestry, where it means never harvesting more than what the forest yields in new growth. The word "*Nachhaltigkeit"* (the German term for Sustainability) was first used with this meaning in 1713 (Farrington & Kuhlman 2010).

Since then two major developments in sustainability have taken place: the first is development of triple bottom line approach which focuses on the concern for people, planet and profit in harmony, and the second is the distinction between strong and weak sustainability .Very strong sustainability focuses on a very strong eccentric world view which rejects almost all use of natural resources. Society contains many parts which are not involved with any of the economic activities thereby contributing to the protection of the environment. On the other hand, very weak sustainability is more techno centric. Here, social, environmental and economic interests compete and priority is given to economic interest (Byrch et al. 2007).

The importance of sustainability was realized by the world in the 1970s, particularly, after the rise of environmental and social issues. Hurricane Katrina, Love [cannel /canal?] disaster, the China floods and the Bhola Cyclone are some of the major natural disasters which made the world realise the power of the environment .*(*Day & Klein 1987, p. 244, cited in Power 1997, p. 127*)* In addition, the social issues created by multinationals by their activities such as the BP oil leak, the Bopal gas leak, etc., roused sharp criticism, and attracted public attention and media coverage in this regard. This made corporations understand their responsibility towards the environment and society where they operate for survival.

The inspiration for sustainability started with the Bruntland Report released in 1987. The World Commission on Environment and Development headed by Gro defines sustainability as 'meeting the needs of the present without compromising the ability of future generations to meet their own needs' (WCED 1987, pp. 627-645). However, we can find historical evidence where sustainability was an ancient practice evolving throughout history.

Studies indicate that sustainability reporting is not widely practiced in developing countries, mostly Asia (Fifka 2012). Further, it is generally confined to certain industries such as oil, chemicals and steel (Fifka 2012)

Sustainability Reporting

The capacity of a firm to continue to operate over a long period of time depends on the sustainability of its stakeholder relationships. This new stakeholder view of the firm goes beyond the triple bottom line and balanced scorecard.

Companies need appropriate systems to measure and control their own behaviour in order to assess whether they are responding to stakeholder concerns in an effective way and to communicate the results achieved by aiming at monitoring and tracking from a qualitative and quantitative viewpoint overall corporate performance according to a stakeholder framework.

The corporates that adopt sustainability practices on a voluntary basis use Global Reporting

Initiative (GRI) G4 and G 3.1 as guidelines for preparing sustainability reports. G4 is the latest version of GRI guidelines which consist of more comprehensive guidelines for General Standard and Specific Standard Disclosures. Companies also follow their own practices other than GRI. The nonfinancial information contained in these sustainability reports are categorized into to six categories as per the GRI 2007 categorization scheme. These categories are as follows: economic, environment, labour, human rights, product responsibility, and society. GRI supports measuring the impact of a company's operations on society and the environment through physical and monetary ratios (GRI 2002).

Sustainability Assurance

Assurance can be described as the provision of confidence or certainty by an independent assurance provider to a party or group of persons in relation to certain subject matter (Park & Brorson 2005).

The level of assurance expressed varies with the nature of the service provided. The scope and depth of an assurance service depends on the need for confidence of the interested parties on the one hand and on the availability of proper evidence on the other hand. The interested parties should be informed adequately about the level of assurance envisaged, thus avoiding an expectation gap.

Assurance of sustainability reports is argued to fulfil the same function and provide the same values for the stakeholders as audit does for financial reports. That is, they provide credibility to the report by being examined by an independent, competent third party (Park & Brorson 2005).

Sustainability reports become increasingly important as organizations are expected to be accountable, to perform responsibly and to report on their performance. Publishing a sustainability report helps an organization to be more transparent and credible in its relations with stakeholders. This can lead to better performance on the markets, including the financial and labour markets, thus increasing shareholder value. Organizations voluntarily commission assurance engagements on reports they have prepared because of the perceived benefits, both external and internal. The independent assurance provider issues a report that enables users to place more credibility to the information reported by the organization. Each user of the assurance report can now take decisions based on the information in the sustainability report with less uncertainty about that information (Mellqvist & Stierna 2013).

Adams & Evans (2004) state that 'there is an issue regarding assurer's expertise regarding the assurance procedure'. Therefore it is said that ISAE 3000 explicitly foresees the possibility that auditors make use of experts from other disciplines to complete their investigations and there is an obligation to evaluate audit risk even when the document examined for verification does not resemble a traditional accounting record.

The survey report of KPMG (1999, 2002, 2005 & 2011) examined whether the Top Fortune 500 companies in a number of different countries produced publicly available sustainability reports, and whether they were assured. The outcome reflected there is an increasing trend towards publishing sustainability reports and obtaining assurance on sustainability reports published. The results of the surveys conducted were as follows: (Refer Table 1).

Table 1: Assurance on Sustainability Reports among Fortune 500 Companies

Year	Published Sustainability Reports	Obtained Assurance on Sustainability Reports
1999	35%	19%
2002	45%	29%
2005	70%	30%
2008	58%	40%

Source: (O'Dwyer & Owen L 2005 & 2011)

In Sri Lanka, there is no statutory requirement that sustainability assurance reports should be assured. The exception is when the sustainability report is located in the management report, within the annual report and thereby is encompassed by the statutory audit. In addition, Sri Lankan companies are producing sustainability reports in accordance with the GRI guidelines and assure these reports by an independent attestation. The GRI guidelines leave a lot of freedom to the reporting company in terms of the scope and depth of assurance. The requirement of sustainability assurance differs from the requirement of external review of financial reports, in which government has refrained from commenting on the preferred type or nature of provider.

According to the International Auditing and Assurance Standards Board principles, the essential elements of assurance services - ISAE 3000 - describe the external verification of nonfinancial reports that determine the level of reliability of the procedures carried out, with the level of assurance, in order to reduce the expectation gap between a reader's perception of the reliability of the verifications and their actual effectiveness.

The possibility of making use of an inter disciplinary team of experts, types of verifications and tests to implement, the evaluation of audit risk are suitable reporting criteria for the form of the final assurance statement . These principles allow the auditor to indicate two different levels of assurance based on the intrinsic characteristics of the subject matter and of the investigations implemented as a) reasonable assurance or b) limited assurance (Meern 2002)

Reasonable assurance means the practitioner gathers sufficient appropriate evidence to conclude that the subject matter conforms in all material respects with identified suitable criteria, and gives a report in the form of a positive assurance. But in the case of limited assurance the practitioner gathers sufficient appropriate evidence to conclude that the subject matter is plausible in the circumstances, and gives a report in negative form (Meern 2002).

The great weakness of ISAE 3000 is that it is not specifically designed for assurance services on sustainability reports. This explains several problems that strike both assurance providers and stakeholders addressed by CSR reporting. Among these elements, the three main problems are:

- Absence of relation with financial auditing, with particular reference to fraud.

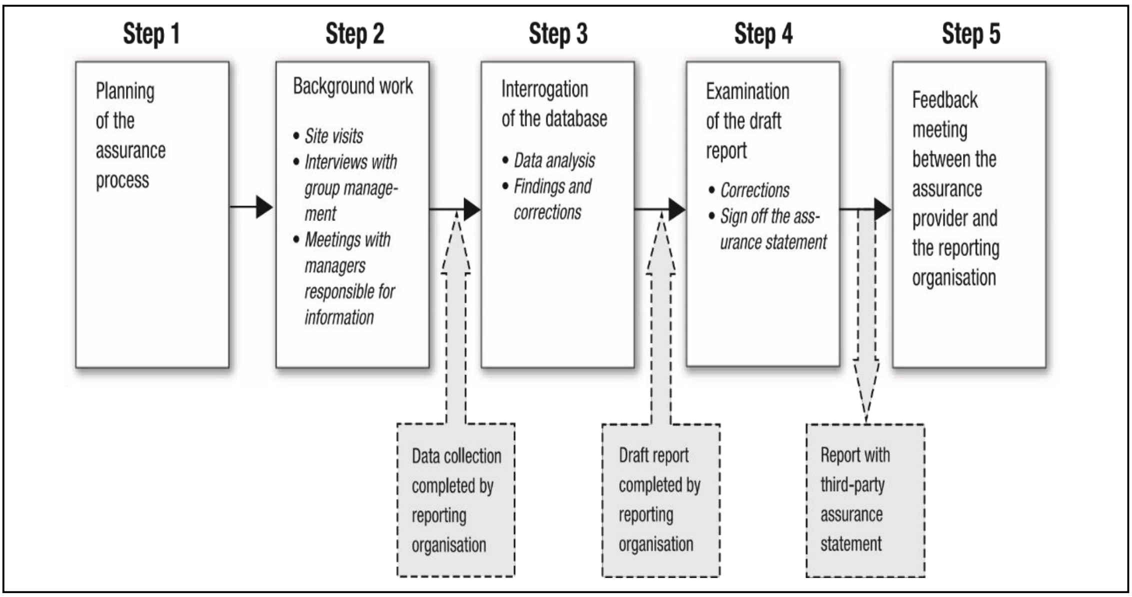
- Deficiency of verification on compliance with national law and regulations.
- Lack of involvement of the stakeholders' representatives in the verification process of materiality and relevance of the information given.

There are a few other criticisms against the present assurance standard in addition to the three limitations mentioned above. The main criticisms of present assurance standards can be stated as: the determination of the level of assurance, roles and responsibilities of external experts, the relations with financial audit, compliance with national laws and regulations, the relevance and the materiality of the information given and the involvement of external stakeholders in the verification process.

There is an issue regarding the assurer's expertise regarding the assurance procedure. Therefore it is said that ISAE 3000 explicitly foresees the possibility that auditors make use of experts from other disciplines to complete their investigations and there is an obligation to evaluate audit risk even when the document examined for verification does not resemble a traditional accounting record. This highlighted section should come under Sustainability Assurance Standards while avoiding any duplication.

Roger, Ann & Wai (2009) have argued that enhancing the credibility of reports of companies and of corporate reputation is measured by the sustainability reports they assured and also demonstrated 'a strong link between companies with a higher need to enhance credibility and those having their sustainability reports assured'. According to Park & Brorson (2005), the assurance processes are organized through five steps (refer Figure1).

Figure 1: Typical Steps of Third-Party Assurance Process



Source: (Park & Brorson 2005)

Sustainability Assurance Providers and Standards Used

There are mainly two international standards used by assurance practitioners to provide sustainability assurance, which are designed for different objectives and play a dominant role. They are

- AA 1000 Assurance Standard
- ISAE 3000 standard

The AA1000 Assurance Standard (known as AA 1000 AS) was developed by the London-based Institute of Social and Ethical Account- Ability (more commonly known as Account Ability). AA1000 is a free, open-source set of principles that focuses on the learning aspects of addressing sustainability/CSR.

The ISAE3000 standard ("Assurance Engagements Other Than Audits or Reviews of Historical Financial Information") is a standard which provides guidance in the form of basic principles and essential procedures for professional accountants on how to conduct non-financial assurance engagements.

According to ISAE 3000 the main elements of ISAE 3000 regarding external verification of non-financial reports are the following:

- The determination of the level of reliability of the procedures carried out (level of assurance),
- The possibility of making use of an interdisciplinary team of experts,
- Types of verifications and tests to implement,
- The evaluation of audit risk,
- Suitable reporting criteria, and
- The form of the final assurance statement.

The GRI Guidelines, AA 1000 AS and ISAE3000 standards do not directly compete amongst themselves, as some assurance providers seem to reference them in different combinations in view of the overlap in the minimum content of assurance (Manetti & Becatti 2009).

Sustainability assurance providers:

There is an argument about from whom (audit practitioner or another external assurer) the companies obtain sustainability assurance reports in order to enhance the credibility of their reports. There are some factors affecting the choice of assurance provider. They are company top management decisions and traditions, industry and country-related factors. Therefore Roger, Ann & Wai (2009) state that, ‘the stakeholder orientation of a company's country of domicile with companies from stakeholder- orientated countries makes it more likely that a member of the auditing profession is chosen as their assurance provider’ (Simnett et al. 2009).

Table 2: Certification Standards on Sustainability and Their Purposes

Name of the standard	Purpose
ISO 26000	Social Sustainability Certification Standard
ISO 9001	Quality Management Standard to Ensure Businesses Operates Efficiently
ISO 14001	Environmental Management Standards (Waste Management & Other Environmental Concerns)
OHSAS 18001	Occupational Health & Safety Management Standard Focuses on Reducing the Risk of Costly Accidents and Comply with Legislation
ISO 50001	Effective Energy Management Systems Standards
ISO 22000	Food Safety Management Focuses on Management Food Safety from Farm to Fork
ISO 31000	Risk Management Standards
ISO 20121	Sustainable Events Management Standards with the Goal of "Ensure an Environmentally Responsible Approach to Your Next Event"
ISO 22301	Business Continuity Management Standards with the Aim of Minimize the Impact of Disruptive Incidents.
ISO 9002	Model for Quality Assurance in Production, Installation and Servicing Standard
HACCP	Hazard Analysis and Critical Control Point -Food Safety Management Standard
GMP	Good Manufacturing Practice

3. METHODOLOGY

Study Design

We used annual reports of companies, unstructured interviews and findings from other countries to collect data. We designed checklists to compare data collected from annual reports and [used Appendix-1?] to conduct unstructured interviews with practitioners.

Initially we carried out the study as a replication of a study done by Marx & Dyk (2011) done in South Africa in the year 2011. Later we carried out unstructured interviews to overcome the limitations mentioned by them in their study. The criteria and evaluation methods selected were based on the above mentioned study. Moreover, we used various other criteria based on their applicability to the Sri Lankan scenario. Also, unstructured interviews with key assurance practitioners were carried out to ensure the internal validity of the study.

Population and Sample

For the purpose of data collection we used both primary and secondary data sources. Primary data was collected through interviews and secondary data from the annual reports of the listed companies which include sustainability reports.

We have conducted unstructured interviews with sustainability assurance providers (such as audit firms) and sustainability reporting practitioners (such as management personnel of companies).This helps to provide an overview of the sustainability assurance certification in Sri Lanka and how the practice is maintained.

The population consisted of 295 public listed companies in the Colombo Stock Exchange in the financial year 2014/2015. From this population we selected 78 sample companies which prepare sustainability reports. In obtaining the sample we ensured that companies from various industrial sectors were selected.

We conducted interviews of one to two hours duration in the later period with DNV, Ernst and Young and KPMG who are the big three sustainability assurance providers in Sri Lanka. We interviewed persons such as Audit Senior Managers, Managers and Country Head who are responsible for providing sustainability assurances. These interviews were unstructured and the questionnaire attached in Appendix 1 was used as a guideline for discussion. We recorded the discussions and took down notes to transcribe the discussion into the study. Refer Table 3 for more details of the interviews.

Table 3: Interview Summary

Name of Organization	Date & Time period	Designation
DNV GL – Sri Lanka	20 Oct 2016 (11.00am – 1.00pm)	Country Head
Ernst & Young	17 Oct 2016 (10.00am -11.00am)	Audit Manager
KPMG	12 Sep 2016 (3.00pm – 4.00a-pm)	Project Manager

Data Analysis

After the data was collected from interviews and annual reports, we developed the relevant criteria for data analysis. The criteria were developed mainly based on the objectives. He data collected was critically evaluated and analyzed based on the criteria. Primary data was mainly analyzed to get an overview of sustainability reporting and challenges in sustainability assurance development.

To analyze the secondary data, we planned to evaluate disclosures by the companies in the annual report, standards and guidelines adopted to provide those disclosures. A check list was developed based on the criteria and the data collected was recorded against the check list to facilitate data analysis.

Mechanisms to Assure the Quality of the Study

- Dependability

  Dependability measures the consistency of measures used over time. If measures fluctuate over time, it will affect the reliability and validity of the research. Since the measures are replicated from the previous study and re-evaluated before applying them, we can ensure that the measure does not fluctuate over time. The content of sustainability reports was analyzed and amendments to the checklist were made to ensure timeliness and dependability of measures.

- Credibility

  In order to ensure the truthfulness of the data included in this study, guidelines were obtained for the field interviewing of the people in accounting practice before the interviews and more than one person took part in the interviews. Recordings were done throughout the interviews and all the participants took down notes and summarized them immediately after the interviews. When collecting data from annual reports, they were double checked against the information found in those reports. Further credibility was ensured since we collected data from annual reports prepared by the management who are accountable legally. Those sources helped to improve the credibility of the study.

- Conformability
  Conformability tests the objectivity of the research. Since factual data is obtained from published reports it is free of the researcher's bias. Further, since the data is publicly available it cannot be manipulated by the researcher to suit his personal interests.
  Interviews were done with three different practitioners employed in both audit firms and certified consultancies. Thereby conformability of research was ensured throughout the study. Triangulation was used to collect data from various sources such as published annual reports, unstructured interviews and the existing literature from various countries.

- Replicability
  To ensure the feature of replicability of the study, the research was done based on the publicly available secondary data (published annual reports) and explicit the measurement criteria. Thus the study can be easily replicated by other researchers.

- Transferability
  The findings can be generalized to the population since a purposive sample method was used to select the samples. Industry-wise conclusions can be generalized for the companies operating in the same industry. Since this leans more towards qualitative aspects of research, there is a limitation in that the results cannot be generalized beyond the sample population.

4. ANALYSIS AND DISCUSSION

Evolution of the Sustainability Assurance Practices in Sri Lanka

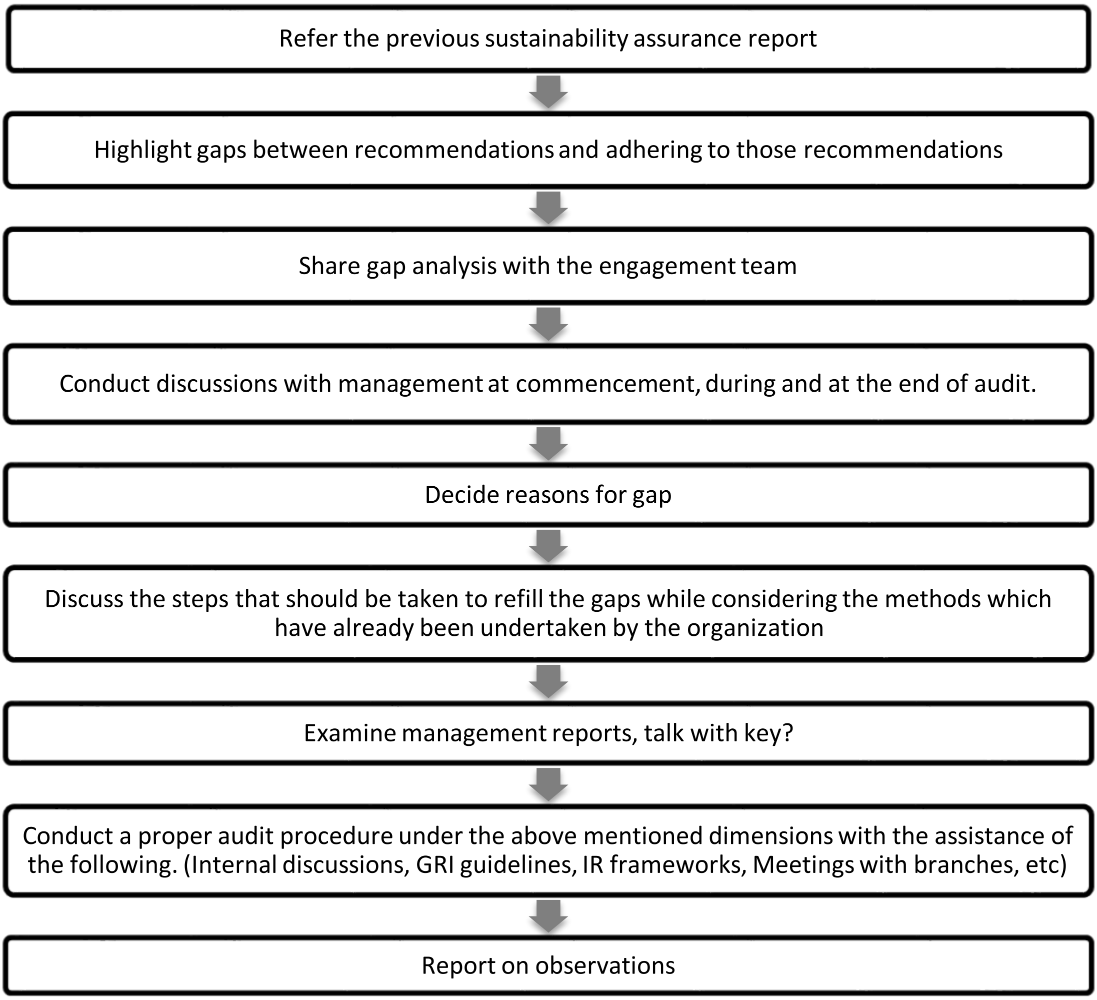
The hotel sector was the pioneers in the development of the sustainability concept in Sri Lanka. As in global developments, environment factor was the main impetus for the development of sustainability in Sri Lanka. In 1997 the Kandalama Hotel, which is one of Aitken Spence PLC's hotels, received the "Green Globe" award from the Environmental Community Service, UK, after a stringent environmental audit (Hulangamuwa & Ariyabandu, 2002)

In Sri Lanka, the first sustainability report was published as a Social Report by Ceylon Tobacco Company in 2004 for the financial period 2002/2003. This report was independently reviewed by Bureau Veritas using the AA1000 standard (The Island.lk 2004). Although tobacco causes harm to people, they try to show how they reduce the damage through sustainability reports through which they provided information about the company to society.

Sustainability Assurance Procedures

Sustainability Assurance procedures adopted by various practitioners vary based on their internal models developed by the parent company. Given below is an example of procedures used by Sri Lankan practitioners (DNV GL) (refer Figure 2):

Figure 2: Practices Adopted by DNV GL Sri Lanka



Sustainability Assurance Practice

We carried out this analysis to identify the background of sustainability assurance reporting in Sri Lanka, i.e., to understand about how many companies in Sri Lanka are following the accepted principles to report on sustainability and which reporting standard plays the dominant role in reporting (refer Table 4).

Table 4: Sustainability Reporting Guidelines Used

	No. of Companies	Percentage
GRI -G 4	50	64%
GRI- G 3.1	1	1%
Not following GRI	27	35%
	78	**100%**

Based on the findings we identified that above 50% of the companies that prepare sustainability reports are GRI followers. Among the GRI following companies except one company all the others follow the G4 guidelines, which is the latest version of GRI. Because of inadequate understanding and expertise available for companies to report on sustainability, GRI is helpful for them to report on sustainability at the initial stages.

Studies carried out in Malaysia in 2010 found that varieties of standards were used for assuring the sustainability reports. Standards such as the GRI, ACCA Sustainability reporting guideline, BURSA Malaysia CSR reporting guidelines as well as the Malaysian Silver book were used. Only one company of twelve applied GRI reporting guidelines whilst the others used it only as a reference. Most companies adopt the BURSA Malaysia guidelines (Sawani Mustafa & Zain 2010).

This situation is totally different from that in Sri Lanka, where 50% of the companies are adopting GRI. The study further found that most of the Malaysian companies are using BURSA guidelines since BURSA made CSR compulsory among public listed companies. But in Sri Lanka CSR reporting is not compulsory and there is no regulating body. Therefore Sri Lankan companies are using GRI and disclose information voluntarily.

Table 5 – Companies Obtaining Sustainability Assurance

Description	No. of Companies	Percentage
Independent assurance obtained	25	32.05%
No assurance obtained	53	67.95%
	78	**100%**

Based on the findings shown in the above table (Refer Table 5) the vast majority of companies, above 50%, have not obtained assurance reports from external assurance providers. Even though only 25 companies have obtained assurance, all of them have obtained independent assurance from external assurance providers rather than from internal parties. This improves the credibility of the information disclosed.

A study carried out in South Africa by Marx & Dyk (2011) found that only 35% of companies listed in the Johannesburg Securities Exchange which are measured in the Socially Responsible Investment (SRI) Index have obtained assurance in sustainability reporting. With 32%, in 2015 Sri Lanka reflects a situation similar to that in South Africa in 2012. Hence it is clear that compared to South Africa, Sri Lanka is still behind developments in sustainability assurance. This situation can be attributable to the early developments of Integrated Reporting in South Africa (Marx & Vanessavan 2011), which also provided a boost to sustainability assurance practices.

In Australia a study was carried out among 295 companies listed in the ASX 300 list of the sustainability assurance practices. It was found that 56% (167) of the firms had reported on sustainability assurance in year 2015. Out of the 167 companies only 40 companies (24%) had obtained independent assurance in sustainability reports. This is 13% of the total samples selected for study (Bepari & Mollik 2016). The situation in Sri Lanka is better than in Australia where 32% of the companies obtain sustainability assurance. Sri Lanka is dominated by a Buddhist culture which teaches principles of protecting nature. This inherited behaviour of management might have led to better results in Sri Lanka compared to Australia.

In discussing these findings with one of the key persons working for sustainability assurance providers in Sri Lanka he explained the reason as follows:

Some companies are obtaining sustainability assurance only for the holding company which would cover the subsidiaries also. Therefore if the samples we have selected include the parent company and subsidiaries then the results might indicate that most of the companies don't have sustainability assurance. But in the real scenario the parent company's sustainability assurance can be applied to subsidiaries also. Therefore the result might be biased. For example, John Keels Holdings obtains sustainability assurance only for the holding company.

Further a practitioner expressed his experience as follows:

Sustainability assurance practice was adopted in Sri Lanka 10 years ago only and is still in the development stage. Therefore management is not aware of the importance of obtaining assurance and the contribution of top management to sustainability development. They consider sustainability to be a responsibility of the CSR division. Therefore the sustainability assurance reports obtained by companies are few in Sri Lanka.

Moreover the local companies do not consider sustainability reporting as an investment. They always think it will involve a cost to the company. But if they try to reduce resource consumption (e.g. water, energy, oil), in the process of manufacturing or providing services, it will automatically reduce the material cost of the process. In explaining this attitudinal issue, a practitioner stated that;

The main reason behind that is the bad attitude of local companies. Local companies do not think of sustainability reporting as an investment. They always think it will involve a cost to the company. But if they try to reduce resource consumption (e.g. water, energy, oil), in the process of manufacturing or providing services, it will automatically reduce the material cost of the process.

Industry Analysis

Next we analyzed which industries were keener to obtain assurance on sustainability reports than others. We selected companies covering certain specific industries for the research purpose. The findings are shown in the following table (refer Table 6):

Table 6: Industry Wise Analysis

Selected Industries	Total No of Companies in the Industry	No. of Companies Preparing Sustainability Reports	No of Companies with Assurance	Assured Companies as a % of Sample
Diversified Holdings	21	9	3	33%
Foot wear& Textile	6	2	1	50%
Hotels & Travels	42	12	1	8%
Beverage, Food& Tobacco	23	8	0	0%
Chemicals & Pharmaceuticals	12	5	0	0%
Health care	7	4	1	25%
Finance & Insurance	43	22	14	64%
Telecommunication	4	2	1	50%
Power and Energy	9	3	1	33%
Plantations	20	4	0	0%
Motors	6	1	1	100%
Manufacturing	40	3	1	33%
Services	8	0	0	0%
Trading	9	1	1	100%
Construction & Engineering	4	2	0	0%
Information Technology	2	-	0	0%
Investment Trusts	14	-	0	0%
Land & Property	20	-	0	0%
Oil Palms	5	-	0	0%
Total	**295**	**78**	**25**	

Finance Insurance Sector has a larger number of companies that have obtained sustainability assurance reports than other industries. Our sample covered only 64% in the industry. But there are 14 companies, which is around 51% percentage of the companies that obtained assurance (25).

Further, the number of companies that obtained assurance from the industry is above 60% of the number of companies preparing sustainability reports. The finance and insurance sector includes companies which are mainly in the banking and insurance sector. Therefore their negative impact on the environment and society is low. But they are keener to obtain assurance on sustainability information.

A study carried out in Portugal found that of 60 companies selected for study nine companies were selected from the financial sector (the third highest after the industrial sector and consumer service sector). Of nine company's six companies had obtained assurance on sustainability reports in the year of 2011, which is 67%. Therefore findings from the study that finance and insurance sector companies are keener to obtain sustainability assurance can be justified based on the similar findings from Portugal (Gomes et al. 2015).

A possible reason could be that it is more convenient for the finance companies to submit sustainability reports than manufacturing companies or companies in other sectors. Because establishing initial infrastructure facilities and measuring the performance is easy for them. Thus most of the financial institutions publish sustainability reports and obtain sustainability assurance.

One practitioner stated that

It's easy for financial institutions to prepare sustainability reports since their impact is low. Their consumption levels can be easily measured through branch-wise meters. And usage of energy source is only electricity for lights, air conditioners and computers.

He further stated:

This is not going to be easy hereafter. There is an evolving trend that financial institutions measure an indicator to show how green their money is. This trend is evolving after the frauds and money laundering activities which have created issues in society. Thus financial institutions are taking action to ensure the cash deposited with them and handed to customers are used in a sustainable way. This will make sustainability reporting in the finance sector difficult in future.

Table 7: Assurance Providers

Independent External Assurance Obtained Consisting of	**No. of Companies**	**Percentage**
Audit firms	23	92%
Other independent assurance providers/Specialist Consultant	2	8%
Assurance provided by certified firms	0	0%
	25	**100%**

As per Table 7, independent external assurance has been obtained mainly through audit firms, which is 92%, and only 8% assurance is obtained from other independent specialist consultants. This is similar to the situation prevailing in South Africa, where 83% of companies also have chosen audit firms to obtain assurance rather than specialist consultancies (Marx & Dyk 2011).

One possible reason for preferring audit firms is that it is easy for them to obtain both financial and sustainability assurances from audit firms since they are already familiar with them. But this practice could question the quality of the assurance reports provided by audit firms in the sustainability information since they do not have expertise to provide sustainability assurance.

A specialist consultant from one of the leading sustainability assurance practitioners in Sri Lanka mentioned:

We are really costly. Our cost is more than double that of audit firms. It's because of the quality, time and effort we spend on it. If you see the depth of assurance opinion we provided you can easily understand the quality. We are worth that cost.

Furthermore, the specialist consultants are more costly (even more than two-fold) than audit firms and therefore for cost constraints some companies choose to go for audit firms. Further, since specialist consultants use international standards and procedures it is difficult for some companies to establish the required infrastructure to support sustainability audits.

Assurance Standards Used by Assurance Providers

The purpose of the analysis is to identify the assurance standard mostly used by assurance practitioners in Sri Lanka and the factors that influence the decision by users when choosing assurance standards. The findings of our study are given in the following table (Refer Table 8):

Table 8: Assurance Standards Used

Description	No. of Companies	Percentage
SLSAE3000 only	22	88%
AA1000AS only	3	12%

When companies obtained sustainability assurance, most of the assurance providers used SLSAE 3000 as the base to provide assurance. Of 25 companies which have obtained external assurance 23 opinions were based on SLSAE 3000. This is 88% of the total opinions provided. Only two assurance opinions, which are 12%, were based on the AA 1000 standards. Thus it is crystal clear that most of the assurance providers in Sri Lanka are using SLSAE 3000 to provide opinion.

When we discussed the reason with assurance practitioners we could not obtain a clear answer for this since they are familiar with the standards their firms are using but not with other standards since they are not relevant for them.

When we discussed with a practitioner about SLSAE 3000, who is using AA1000 he mentioned:

I don't know much about it. It's not relevant for us. I don't even look into it. Even our clients told us that they didn't want it and we provided the opinion based on AA 1000.

When we discussed with a practitioner from an audit firm he mentioned:

We are not familiar with AA 1000 since it's not relevant for us. We are relying on standards which are issued by the Chartered Institute of Sri Lanka. That's enough for us to provide assurance since most of the companies are receiving limited assurance. Not reasonable assurance.

Further, we noticed audits firms had used SLSAE 3000 to provide opinions and specialized consultants are using AA 1000 to provide opinion. None of the practitioners have used both SLSAE 3000 and AA 1000 as the basis for opinion. This might be due to the reason that audit firms are familiar with accounting standards published by the Chartered Accountants of Sri Lanka for statutory audit purposes. Thus they prefer to use SLSAE 3000. Most of the specialist consultants operating in Sri Lanka are global firms and they prefer to use global standards such as AA 1000.

Another reason could be the influence of the clients since they are obtaining finance from foreign countries also. Therefore foreign investors are keen on sustainability information. Since foreigners are not familiar with SLSAE 3000 clients request the assurance practitioner to provide assurance based on AA1000 standards.

Studies carried out in South Africa give evidence that ISAE 3000 is the dominant standard used by practitioners (47.6%) for assurance on sustainability information with fewer practitioners (9.52%) adopting AA1000AS. However, it is encouraging that 19.05 percent of reports are issued on the basis of both AA1000AS and ISAE3000 (Marx & Dyk 2011).

The same situation prevails in Sri Lanka where 88% of the assurances are provided based on SLSAE 3000 which is the amended local version of ISAE 3000 standards. Since most of the assurance providers are audit firms (Refer Table 4) it is easier for audit firms to adopt another part of accounting standards rather than learning a new global standard.

Information Assured

The objective of this analysis is to study, out of the 78 sample companies we have selected for study, how many companies have obtained assurance on sustainability reports disclosed and information disclosed on the websites. The purpose of this analysis is to learn about which communication ways companies use to communicate the sustainability information and which is more convenient to the company and stakeholders. The findings are described in the following table (Refer Table 9)

Table 9: Sustainability Reporting Disclosure

Sustainability Report Disclosed	No. of Companies	Percentage
With annual reports	17	68%
As a separate report	5	20%
On the website	3	12%
	25	**100%**

We have noticed that most of the companies issue sustainability assurance reports along with their annual reports. Of 25 companies that obtained sustainability assurance 17 (68%) companies (68%) have issued them with their annual reports. Five companies have issued them as separate report. Only 3 companies have published them on the website. This is only 20% of the total assurance reports published. Thus it is clear that the more convenient mode is issuance with the annual report and publishing on the website is least popular.

A study carried out in Malaysia found that 58% have incorporated their sustainability reports within the annual report and only 16% of the companies have published stand-alone reports. Other companies have used various other ways such as websites (Sawani, Zain & Darus 2010). A similar situation can be found in Sri Lanka where 68% of the companies publish sustainability reports along with their annual reports and only 20% of the companies publish stand-alone reports.

This is because when companies disclose information along with financial reports which are mandatory by law, sustainable reports also attract the attention of readers. Furthermore, it is a convenient and a clear mode for readers to understand non-financial aspects also (Sawani, Zain & Darus 2010)

Table 10: Assurance Obtained

Assurance Obtained on	No. of Companies	Percentage
Both Annual report and Sustainability report	25	32%
Only on Financial Information	53	68%
On information disclosed on website	0	0%
Total	**78**	**100%**

According to our findings (refer Table 10) none of the companies have obtained assurance on additional information disclosed on the website. All 25 assurances obtained were only for the sustainability assurance reports published with the annual reports. All other companies have obtained external assurance for the financial information only since it is mandated by law in Sri Lanka.

Even though websites play an important role in the information technology era for companies to communicate with stakeholders, companies do not understood the importance of ensuring credibility of information disclosed on the website. Since sustainability assurance is an emerging field in Sri Lanka we can expect improvements in the future.

Level of Assurance Obtained

The purpose of this analysis is to understand the credibility of the sustainability information disclosed. The level of assurance is provided by the external practitioners who use SLSAE-3000 as the base to provide opinion. Providing the level of opinion is not practised under AA-1000 assurance standards.

Under SLSAE 3000 two levels of assurance are provided. They are reasonable assurance and limited assurance (Chartered Institute of Sri Lanka 2010)**.** Reasonable assurance is provided when the sustainability information can be validated to a reasonable level and there are no material misstatements. Limited assurance is provided when the practitioner is unable to validate the information to an acceptable level and there are possibilities of misstatements (Chartered Institute of Sri Lanka 2010). Under AA-1000 standards the practitioner indicates the opinion on six bases starting from neutrality and e the areas of improvement needed. Five main areas measured under AA 1000 are as follows (Accountability.org 2015).

- **Inclusivity**: Inclusivity means the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability, i.e., engagement with key stake holders to identify the sustainability challenges and material issues was collected, prioritized and fairly reflected in the report.

- **Materiality**: Materiality determines the most relevant and significant issues for the shareholders and the company, i.e. to check whether the issues and aspects which are important/what matters to internal and external stakeholders are included in the report.

- **Responsiveness**: Responsiveness means to respond to the issues and impacts in an accountable way, i.e., whether the report expresses proper governance practices, policies and management systems exist to respond properly to key stakeholder concerns are considered here.

- **Reliability:** Whether the data and information stated in the reports are accurate and reliable.

- **Completeness**: Whether the report made a fair attempt to disclose general and specific standard disclosures and whether the company gave a reasonable reason for not disclosing any information.

- **Neutrality**: Disclosures related to sustainability issues are reported in an unbiased way (both positive and negative impact are disclosed.) (Accountability.org 2015).

Table 11: Level of assurance obtained

Level of assurance obtained	No. of Companies	Percentage
Reasonable assurance	0	0%
Limited assurance	23	92%
Assurance based on AA-1000	2	8%
Total	25	100

As indicated in Table 11, none of the sustainability reports were of adequate quality to obtain reasonable assurance. All 23 companies which had obtained sustainability assurance reports under SLSAE 3000 had got only limited assurance. This is 98% of all the sustainability assurance reports provided. This might be because sustainability information is mostly subjective unlike financial information. Further, information on this area is discussed in the latter part of the study.

Two companies, which form 8% of the companies that obtained assurance had got assurances under AA-1000 standard. A company in the motor engineering sector had obtained a “Good” opinion on all five bases (neutrality, inclusivity, materiality, reliability, and responsiveness) except completeness, which was stated as “Acceptable”. A leading diversified holding company in Sri Lanka obtained a “Good” opinion on all 5 bases (neutrality, inclusivity, completeness, reliability, responsiveness) except materiality, for which “Acceptable” was stated. Since the standards vary the comparability of the reports was affected.

Main Obstacles in the Development of Sustainability in Sri Lanka

- High cost
  Sustainability reporting and obtaining assurance have become costlier which some startups cannot afford to adopt. Further, it is costlier for companies to support non-financial assurance audits and get the sustainability reports assured compared to financial information.

- Lack of awareness
  Top management doesn't have enough awareness and considers it as a cost making process rather than an investment. Further top management considers it a responsibility of the CSR department instead of the company as a whole.

- Sluggishness
  Slowness of companies in adapting to global changes and improvements.

- Lack of systems and procedures
  Companies don't have proper systems in place to obtain data for non-financial information and prepare sustainability reports.

The Future of Sustainability Reporting: Mandating Sustainability Assurance in Sri Lanka

We obtained the opinions of practitioners on whether it was possible to mandate sustainability assurance in developing countries like Sri Lanka. Some of their suggestions are discussed below:

One practitioner from a specialist consultancy firm told us that:

It's not required to mandate sustainability assurance for all companies. Instead companies listed in the stock exchange should obtain sustainability assurance certifications because they are funded by public money. Companies' performance will be decided not only by financial information but also by non-financial information. Therefore those companies should prove that they are concerned about corporate responsibility towards society. Through that, the long-run sustainability of those companies will be ensured. Otherwise, investment advisers cannot guarantee the opinion given to the investors.

Moreover, he mentioned:

There are some large-scale companies which are not listed in the stock market, which also should be asked to prepare sustainability reports since they make a huge impact on the economy. For example, we can consider key players in the following industries -Tea industry, Apparel industry…etc. Further the Securities and Exchange Commission (SEC) has responsibility towards investors about the companies listed under them. Therefore CSE can take action to mandate sustainability assurance in the above mentioned areas in Sri Lanka.

If sustainability reporting/assurance is to be mandated, the following suggestions should be considered:

1) A reasonable time frame should be given (average of three years). Sustainability assurance practice is a long-run investment. Companies should be given enough time to develop the

required infrastructure facilities to practise sustainability reporting and obtain sustainability assurance.

2) Government should arrange financing facilities for SMEs which are listed in the stock exchange since this is a high cost investment, which some SMEs might not be able to afford.

3) Regulate sustainability assurance standards (adopt global standards) and develop basic requirements (adequate qualification and knowledge on GRI) for sustainability assurance practitioners to ensure the quality of sustainability assurance reports.

4) Require the top management to take the responsibility and certify that the sustainability reports are reliable and accurate, which might lead top management to get involved in reporting.

One practitioner from an audit firm suggested:

Corporate Social Responsibility is a voluntary initiative. It begins where the law ends and is entirely motivated by the desire to maintain competitiveness and maximize the effectiveness of management and company resources. It is not dictated by laws, but rather by the requirements of society and consumers. Sustainability reporting is an initiative which comes from the business; it comes from the inside, not from outside like from governments. Therefore that cannot be expected from the government in a developing country like Sri Lanka.

Challenges in Non-Financial Information Audits

The following challenges were mentioned by audit practitioners while conducting audits and providing assurance on non-financial information.

There is guidance such as ISAE 3000 for practitioners to follow when performing assurance engagements on non-financial information but there are a number of challenges and issues considered by Ernst and Young. (Ernst & Young, 2013)

- Independence
  Stakeholders want credible information they can trust. An expert providing an independent opinion on the reliability of information helps to reinforce trust. Independence is therefore an essential characteristic of assurance engagements.
  Ernst and Young as practitioners have clear standards to follow in terms of independence. However, meeting independence requirements can be challenging.

- Skills , experience and training and the need for specialist knowledge
  ISAE 3000 addresses certain quality aspects of external assurance such as the need for appropriate specialist knowledge and skills to be available in the assurance team.
  As information demands change, EY might be asked to carry out different types of assurance engagements that might be outside their normal skill sets. For example, they have expertise in performing quantitative assessments of information but are less likely to have experience in performing assurance engagements on qualitative information like sustainability assurance.

- Quantitative versus qualitative information
  Ernst and Young might have lots of experience in auditing Financial Statements but providing external assurance reports on non-financial information like sustainability assurance brings different challenges. For instance, there is no system of double entry as in the case of financial information, which can provide an overall control mechanism. Analysis and measurement tools can be immature compared to accounting software.

- Suitability of criteria and obtaining sufficient appropriate evidence
  It might be difficult to find suitable criteria by which to measure the information provided in the report. According to ISAE 3000, without suitable criteria, Ernst and Young are unable to perform the engagement. Quantitative data tends to have clear criteria to measure against. However, non-financial information might be qualitative in nature, and suitable criteria might therefore be difficult to identify.

- Identifying and understanding the intended users
  ISAE 3000 emphasizes the importance of understanding who the intended users are and their needs but defining and managing users might be difficult, particularly in circumstances where the reporting information is going to be freely accessible on an entity's website.

- The control environment
  While in financial reporting the management assessment of internal controls and its external examination as part of an audit has become part of standard practice, the procedures over the preparation of non- financial information are comparatively less formalized.

5. CONCLUSION, LIMITATIONS AND FUTURE DIRECTIONS

The report mainly focuses on providing an overview of sustainability assurance practice in Sri Lanka among the public listed companies. We collected data for the study through various sources such as unstructured interviews, published annual reports, and websites.

Through the study, we analyzed how sustainability assurance is practised in Sri Lanka. In response to increasing stakeholder expectations and to discharge their fiduciary duty managements report on their corporate, social and environmental performance in addition to general financial reporting. The research discusses sustainability assurance obtained by the companies in order to increase the credibility of CSR reports published.

The study found that a lesser number of Sri Lankan companies (only 32%) had obtained independent assurance on sustainability reporting, that is, only 25 companies of the 78 companies we selected from the population of sustainability reports publishers. Of the sustainability assurance providers 23 (92%) companies obtain assurance reports from audit firms and only two companies (8%) obtain sustainability assurance from certified consultants.

Further, we found that the majority of assurance providers prefer to use the accountancy-focused assurance standard ISAE/SLSAE 3000 rather than the accountability based AA1000AS in conducting the assurance assignments. Especially audit firms use SLSAE while certified consultants use AA 1000 global standards. Further, most of the Sri Lankan companies use GRI reporting guidelines since there is no specific standard in Sri Lanka to provide guidance.

Moreover, the study found that companies in the financial sector are keener to publish sustainability reports and obtain sustainability assurance, since it is easier for them to collect data and the majority of the assurance statements are prepared under a limited assurance engagement with the focus on data accuracy rather than on broader social accountability. This might be because sustainability information is mostly subjective rather than financial.

Additionally, the study compared the findings with researches carried out in other countries and carried out unstructured interviews to obtain explanations of the findings. These assisted in ensuring the validity and credibility of the studies. We also obtained suggestions from assurance providers to develop guidelines on regulating sustainability reporting. Future studies can be carried out in the following areas: evaluate the quality of sustainability assurance opinions provided by the assurance providers, and evaluate the sustainability of audit procedures carried out by different practitioners.

REFERENCES

Byrch, C et al. 2007, 'Sustainable "what"? A cognitive approach to understanding the sustainable development', *Qualitative Research in Accounting & Management,* vol. 4, pp. 26-52.

Dissanayake, D, Tilt, C & Lobo, MX 2016. 'Sustainability reporting by publicly listed companies in Sri Lanka', *Journal of Cleaner Production,* vol. 9, no. 04, pp. 1-14

Fifka 2012, 'The development and state of research on social and environmental reporting in global comparison', *J.fur Betri Ebswirtschaft*, pp. 45-84.

Gomes, SF, Eugénio, TCP & Branco, MC 2015, 'Sustainability reporting and Corporate Governance', pp. 281-292.

Managing a sustainable business 2015, viewed 12 December 2016, http://www.masbusiness.com/docs/AA1000SES%202015.pdf

Manetti, G & Becatti, L 2009, 'Standards and Empirical Evidence', *Journal of Business Ethics,* vol. 87, no. 1, pp. 289-298.

Marx, B & Dyk, V 2011, 'Sustainability reporting and assurance: An analysis of assurance practices in South Africa', *Meditari Accountancy Research,* Vol. 19, no.1, pp. 39 – 55.

Marx, B & Dyk, V 2011, 'Sustainability reporting and assurance', *Meditari Accountancy*, pp. 39-55.

Meern, D 2002, 'International survey of corporate sustainability reporting', KPMG.

O'Dwyer, B & Owen, D 2011, 'Assurance statement practice in environmental, social', *The British Accounting Review,* vol. 37, pp. 205–229.

Park, J & Brorson, T 2005, ‘Experiences of and views on third-party assurance of corporate’, *Journal of Cleaner Production,* vol. 13, pp. 1095-1106.

Sawani Y, Zain MM & Darus F 2010, ‘Preliminary insights on sustainability reporting and assurance practices in Malaysia’, *Social Responsibility Journal,* vol. 6, no. *4, pp.627 – 645*

Simnett, R, Vanstraelen, A & Chua, WF 2009, ‘Assurance on Sustainability Reports: An International Comparison’. *The Accounting Review,* pp. 937-967.

Sustainability Assurance 2010, Chartered Institute of Sri Lanka, viewed 12 December 2016, https://casrilanka.com/casl/images/stories/content/members/pdfs/slasp_3000.pdf.

Sustainability Assurance 2014/2015, *Management of Trust - Annual Report 2014/2015,* Diesel & Motor Engineering PLC, Colombo Sri Lanka.

Sustainability Audit 2013, ‘*EY Audit Performance Handbook-2013’,* Ernst and Young, p. 223

APPENDICES
Interview Questions

1) Can you please brief us on the evolution of the sustainability assurance practices in Sri Lanka? (specifically about Ernst & Young in Sri Lanka and its history)

2) Brief us on how e sustainability auditing and assurance practices are carried out.

3) In your opinion why are companies in developing countries less interested in sustainability assurance compared to developed countries?

4) What are the challenges faced when auditing [assuring?] non-financial information?

5) Based on the information processed so far by us, most of the companies in Sri Lanka obtained limited assurance. What are the factors mainly contributing to this?

6) What are the practices expected from the corporates to provide reasonable assurance?

7) If the Sri Lankan government decides to mandate sustainability assurance (similar to South Africa) what challenges would companies, government, and the Chartered Accountants Sri Lanka face?

8) What are the main factors which hinder the development of sustainability assurance in Sri Lanka?

9) Suggestion to overcome those challenges?

10) Most of the companies go for audit firms to obtain assurance rather than other assurance providers. Are there any specific reasons for this?

11) Even though SLSAE 3000 is not specific and comprehensive enough to conduct assurance practices, most of the assurance providers in Sri Lanka are using that. What are the reasons?

12) Even though finance and assurance companies have less impact on the environment, the finance industry is the one consisting of more companies who had obtained assurance. What factors contribute to this tendency?

Diffusion of Revenue Administration Management Information System (RAMIS) in the Inland Revenue Department of Sri Lanka

Amarasinghe, O L (osanda.amarasinghe@yahoo.com)
Gunaratne, M L S
Madusanka W A D C
Pakianathan, A E
Pathirana, K P H
Ponnamperuma, M P
Sandeepa, W A H
Sannasooriya, B A
Wijenayake, W K N A
Wijesinghe W H S S
Dayananda, A G

ABSTRACT
The Inland Revenue Department of Sri Lanka along with the Ministry of Finance commenced the Project for implementing the Revenue Administration Management Information System (RAMIS) to provide a better service to the nation and taxpayers. The objective of this study is to analyze the evolution of Phase I of RAMIS in order to identify the stages of progression, key players of the project and their influence on implementation and also to recognize the challenges and weaknesses of the project. Thus, the study is significant as it contributes to the extant knowledge by adding new knowledge to the limited research conducted relating RAMIS both globally and locally. Further, it acts as a post-assessment study which will help to analyze the effectiveness of the processes and initiatives. The data was mainly sourced through interviews with the top level employees of the Inland Revenue Department who were directly involved in or exposed to the initiation and Phase I of the RAMIS project and important documents (internal and external organizational documents, namely, internal reports, annual performance reports and operational and strategic plans) relating to the project. Interviews were duly transcribed and analyzed to arrive at the conclusion. The findings of the study revealed that the process of RAMIS implementation is in line with the stages of diffusion of innovation, with key stakeholders such as the Ministry of Finance, ADB, IRD and IDA Singapore. The study also identified weaknesses such as inadequate training provided to staff, time overrun and issues with RAMIS external interface. It was concluded that though the diffusion of RAMIS is in line with the stages suggested by Rogers (1983), it has not been executed effectively owing to political interference and lack of buy-in from the staff. Finally, as a direction for future research, an in-depth study is suggested of both Phases I and II of the RAMIS project while taking into account the tax payer perspective as well.

Keywords: Revenue Administration Management Information System (RAMIS), Inland Revenue Department, Sri Lanka., Diffusion of Innovation

1. INTRODUCTION

The inability of the government to raise adequate funds through taxes for the development of a country is a commonly cited issue among most developing countries including Sri Lanka. As a country which offers a wide variety of public goods, quasi-public goods (free education, free medical attention) and various social security networks, Sri Lanka constantly struggles to meet ends with consistently declining revenue sources. According to the Central Bank Report of 2014, the total government revenue as a percentage of GDP continued to decline as a result of poor performance in tax revenue collection. Accordingly, tax revenue as a percentage of GDP declined significantly from 11.6 per cent to 10.7 per cent in 2013.

The Inland Revenue Department (IRD) is the entity responsible for collecting and administering taxes imposed by the Government of Sri Lanka. IT transformation or adoptions by the department has been limited in scope as it is mainly reliant on the manual tax administration system. This manual system has been identified as the main drawback hindering the revenue collection potential of the department (CBSL2014).

The Asian Development Bank (ADB) identified several loopholes in a manual tax administration system which is also evident in the present tax administration system of Sri Lanka (ADB 2014, pp. 3-4). The main drawback is that the actual tax payer base will be minimized due to unequally distributed and unrevealed income sources in the public sector. Further, evaluating every individual based on received and available manual records is a hard task to perform. It is difficult to monitor the full potential of revenue realization due to the complexity of the taxation system and the large volume of records maintained manually. It is also difficult and time-consuming to track incomplete and inaccurate records of the taxpayers. Since majority of the tax payers and tax administrators have prioritized the processing of tax returns and claims in the first place, low consideration has been given to monitoring the inaccurate and delayed records of revenue. ADB (2014) also identifies that manual operations limit the possibility of monitoring and ensuring full compliance with the tax liability of taxpayers, leading to delays and inefficient service delivery to taxpayers, and executing assessments and recovering collections.

The Revenue Administration and Management Information System (RAMIS) was implemented at IRD with the vision 'to be a taxpayer friendly tax administrator delivering excellent service to the tax paying public with well trained and dedicated staff' (Department of Inland Revenue of Sri Lanka 2013, pp.46-47). The implementation of RAMIS was aimed at supporting the Department of Inland Revenue (IRD) in simplifying the tax administration and tax compliance by taxpayers. RAMIS is also envisioned to support increased revenue collection and tax compliance enabling IRD to reach taxpayers more effectively and efficiently.

Problem and Research Questions

The main purpose of this study is to analyze the evolution of RAMIS Phase I within IRD. The pilot study showed that the project officially commenced in July 2014 and it was planned to be rolled over in two phases. However, Phase I of the project was only implemented in March 2016 and Phase 2 will commence in October 2016.

Hence evolution of this project was identified as the scope of the research so that it could be evaluated in depth using diffusion of innovation. Accordingly, the research questions are: How was the Revenue Administration Management Information System (RAMIS) Phase I diffused within the Inland Revenue Department (IRD) of Sri Lanka? Who are the main parties involved and what are the challenges hindering the successful implementation of RAMIS?

Objectives of the Study

This study has three objectives: to identify the progression of the RAMIS project as per diffusion of innovation theory and highlight any deviations from the proposed initial plan and reasons for such deviations; to identify key participants…….?, their role and influence over the execution and progression of the project; and to recognize the challenges faced during the implementation process of the project.

Significance of the study

Only limited research has been conducted relating RAMIS globally. Further to the researcher's knowledge there is no published study done contributing to the extant literature on RAMIS or on any other IT transformation in IRD or in any other government organization in Sri Lanka. Therefore the theoretical significance of the study is that it contributes to the extant knowledge by bridging the above mentioned gap by adding new knowledge.

The practical significance of the study is that it could act as a feedback report which will help to analyze the effectiveness of the processes and initiatives taken to ease the transition to RAMIS and also highlight areas to improve its efficacy. Further, it would enable the key players and stakeholders of the project to benchmark this project against the advanced computerized taxation systems of developed countries in detecting areas of failures, if any, and means of improvement.

Scope and Limitations of the study

The study is limited to Phase I of the RAMIS project and therefore, covers specifically the divisions in which Phase I was rolled out for implementation such as Corporate Tax (IT), Value Added Tax (VAT), Simplified Value Added Tax (SVAT), Withholding Tax (WHT), Nation Building Tax (NBT) and Pay-As-You-Earn (PAYE), which cover more than 95% of IRD Revenue.

Phase II which is rolled over divisions such as ESC and Excise Duty will not be addressed in this study as the phase was not implemented within the research period. This is one of the main limitations of the study because it fails to capture the RAMIS project in its totality but only focuses on one phase of it. The next section reviews the literature.

2. LITERATURE REVIEW

Background of the RAMIS program

RAMIS has been widely adopted by emerging nations with the intention of streamlining their processes. With Asian Development Bank assistance several countries like the Maldives, Kyrgyz Republic, some Indian provinces, Tajikistan and Vietnam are in the process of developing new systems (ADB 2014). Malaysia, Singapore, Tanzania, Egypt, Georgia, Costa Rica, El Salvador, Bosnia and Herzegovina are some other examples of Tax MIS implementations (USAID 2013).

Prior to conducting this research study, a pilot study was conducted in order to better understand the context of RAMIS implementation in Sri Lanka. Through preliminary interviews with the top level IRD staff, the following details on RAMIS were collected. The pioneering efforts for the implementation were undertaken in 2013 under the supervision of the Ministry of Finance and Planning. On November 29, 2012 the Cabinet of Ministers approved the commencement of discussions with the Ministry of Finance of Singapore, seeking assistance to implement RAMIS on a Government-to-Government basis (G2G).

On June 5, 2013, a Memorandum of Understanding was signed between the Ministry of Finance and Planning and the Infocomm Development Authority of Singapore. Asia Development Bank acts as the Funding agent of this project. The project officially started in July 2014 and was targeted to be implemented under two Phases. However, implementation of Phase I was delayed till March 2016 and Phase II was planned to be implemented in the latter part of 2016. The total project period will be 28 months followed by a four-year warranty period up to year 2020.

Concepts and Theories

This study of diffusion of RAMIS at IRD is based on the diffusion of innovation theory. The diffusion of innovation theory into public sector studies has attracted the attention of many researchers (Adhikari, Kuruppu, Wynne and Ambalangodage, 2015; Ezzamel et al.. 2014; Rogers, 1983). Most studies note that the pressure to adopt or diffuse innovative accounting technologies in the public sector has arisen mainly from the need to provide a cost-effective and efficient service and help improve overall financial performance and accountability.

Rogers (1983, p.5) defines the diffusion of innovation as ‘the process by which an innovation is adopted by members of a social system’. Innovation and time can be identified as the key concepts in the diffusion of innovation. Innovation is an idea or practice that is perceived as new by an individual who adopts it (Rogers 1983). It is communicated through certain channels over time among the members of a social system, where the communication channel is the means of transmitting information from one individual to another, and the social system is a set of several units involved in joint problem solving with a common goal.

Gallivan (2001) discusses two stages of diffusion of innovation, which is the process by which new ideas are spread (cited in Mellett, Marriot and Macniven 2009). The initial stage is when management decides to make changes to the existing systems. This will be followed by the secondary stage where the individual adoption by users takes place. Rogers (1983) identifies some of the fundamental requirements for a diffusion to take place. Firstly, the thing to be diffused, in this case it is the newly introduced tax administration management information system. Subsequently, a group of potential adopters throughout which diffusion is taken place, in this case the IRD within the wider setting of the public sector and the tax payers. For the completion of the process, communication must be in place so that the idea can be moved from the location where it is present to where it is absent; the government, through the Treasury and the Department of Inland Revenue, provides this channel of communication. Thus, the spread of a computerized tax management system in Sri Lanka is an excellent fit for consideration in the context of diffusion.

The diffusion of innovations is a process, rather than an act (Lapsley and Wright 2004). Boundary spanning activity may be necessary by actors to bring inventions to the point of diffusion. This process may be shaped by internal and external, formal and informal channels of communication (Swan and Newell 1995, cited in Ezzamel et al. 2014) and can take different forms. The implementation of RAMIS can also be identified as a clearly defined process of several stages, with time frames being assigned. Feltham in 1972 (cited in Malmi 1999) indicated that if a proposed system leads to better decisions than the existing system, and the expected benefits from the proposed system exceed the cost of its implementation, the new system is adopted.

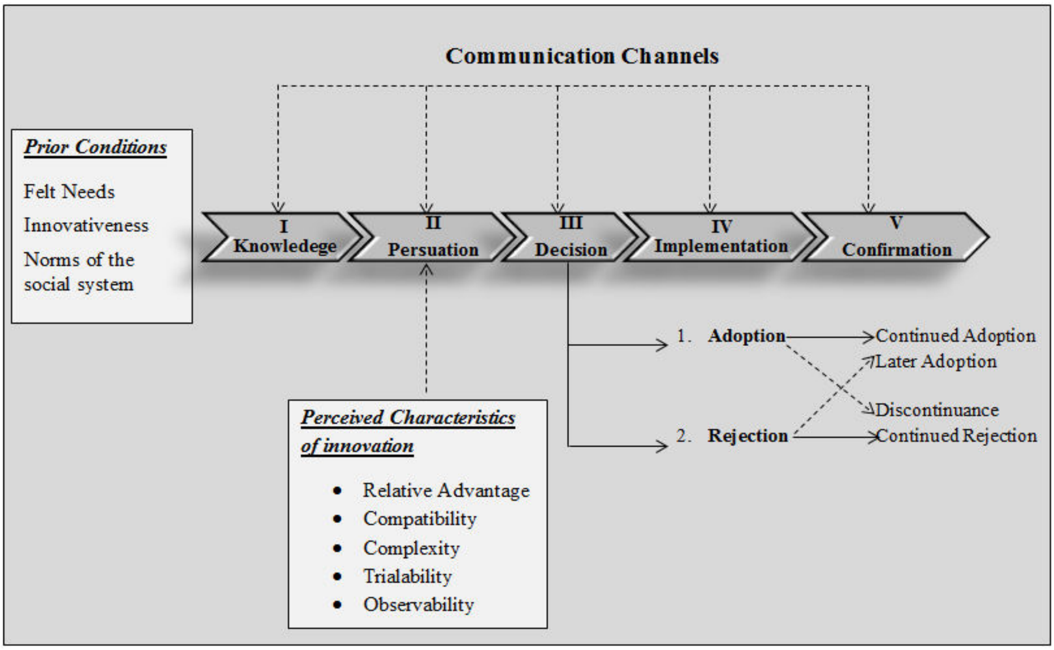
Since diffusion contains change, an individual needs to be there to convince others that the change is desirable and who has the capability to promote it (Sangster 1996). An aspect of analysis (Abrahamson 1991 cited in Mellett, Marriot and Macniven 2009) indicates that an outside institute can influence a particular new technology where decisions are not being made internally. In this case the government or the Ministry of Finance may have been influenced by the worldwide trend towards the adoption of RAMIS, which was adopted from Singapore tax system.

According to the findings of Crum et al. (1996), three critical antecedents are required from pioneers of diffusion. They are technical compatibility, technical complexity and relative advantage (cited in Mellett, Marriot and Macniven 2009). Rogers (1983) highlights that the degree of adoption is positively affected by relative advantage and compatibility, while observability though complex can create a negative influence. He further studied the time span of innovation in detail by identifying five separate stages: knowledge; persuasion; decision; implementation; and confirmation. This has been further elaborated on in the study conducted by Ezzamel et al. (2014) on the use of resource accounting and budgeting (RAB) in the UK central government. At the inception of the diffusion process prior conditions are recognized such as the recognition of defects within the prevailing practices as well as the willingness to adopt modern practices. Ezzamel et al. (2014) found that in the next stage of the diffusion process, policy and decision makers should have the required knowledge of the innovation process. Without prior knowledge, the diffusion of innovations will not be able to move forward to the next stage. At the next stage of the diffusion process is persuasion, which includes encouraging the major stakeholders to embrace innovation, including the possible costs and benefits. The persuasion stage is followed by the decision on innovation, which can range from approval to rejection.

The next stage of diffusion is implementation of the innovation. At this stage, innovation can be reinvented, altered and modified as the requirement arises. Confirmation is the last stage of Rogers' diffusion theory, which can have two opposite effects on the diffusion process. Either the wider adopters may begin to understand the benefits of the innovations and institutionalize them, or they may reject the utilization of such innovations, as the desired paybacks are not actually gained in a practical situation.

The fact that was highly emphasized from the beginning is that there has to be something to diffuse, a process containing various stages, a group of potential adopters, a way to communicate the novel process and a driver to adopt the change. This study is aimed at finding whether these conditions had been fulfilled with the adoption of RAMIS. The literature supports the research problem since diffusion of innovation theory involves a change consisting of stages of evolution.

Figure 1- A model of stages in the innovation-decision process



Source: Rogers (1983)

Objectives of Computerization of Tax System

Many governments in the world are now in the phase of adapting electronic communication devices including the Internet to better provide services through their institutions. This is popularly known as e-government. Siau and Long (2005) identify five main models of e-Government, namely, the digital interactions between a citizen and the government (C2G), between governments and other government agencies (G2G), between government and citizens (G2C), between government and employees (G2E), and between government and businesses (G2B). A computerized tax system in government tax collection departments can be identified as one of the aspects coming under this e-Government concept.

Many countries have tended to implement computerized systems in order to accomplish various objectives. According to the Asian Development Bank (ADB 2014**),** minimizing the cost to tax payers and tax agencies by reducing the cost of tax compliance and tax administration respectively has been identified as one of the main objectives. Apart from that there is , the creation of a centralized tax payer database and a unique identification system for all categories of taxpayers. Moreover the establishment of integrated systems facilitate information exchange between the tax agencies and other key stakeholders such as the Ministry of Finance.

Ernest et al. (2015) observed that computerization of the tax system enables tackling tax avoidance and tax evasion. By enhancing the effectiveness of tax payments and simplifying the tax process tax avoidance might decline to a lower level. Moreover, in accordance with USAID's Leadership in Public Finance Management (2013), facilitating voluntary compliance is another objective which a modern computerized tax administration achieves by simplifying processes, providing information, education and support.

According to a recent study (Ernest et al. 2015, p.54) the objectives considered during the development of the e-taxation system in Nigeria include: Creation and management an effective and efficient database to provide tax payers records, information/bio-data for easy referencing. The provision of an alternative payment routes for tax payers so as to encourage immediate tax payment and provide relief to those who find it an easier and more efficient payment route.

Benefits of Tax System Computerization

Benefits of computerizing of Tax system could be split into two main categories as benefits to tax agency and benefits to tax payer. As per the study conducted by the Asian Development Bank (ADB 2014) significant amount of benefits of Tax MIS implementation for tax agency have been identified. Firstly, this enhances perception of overall tax administration performance. Faster processing of information can be achieved by a well-planned system which assists the processing of returns and payment data more quickly.

Moreover USAID's Leadership in Public Finance Management (2013) states management information for tax administration facilitate smooth operation by ensuring staff and management obtain appropriate reports at appropriate time. This ultimately helps to identify risk and internal problems in advance further increasing the efficiency and effectiveness in the tax administration. Under the assistance of Asian Development Bank, countries like the Maldives, the Kyrgyz Republic, some Indian provinces, Tajikistan and Vietnam are in the process of developing new systems (ADB 2014).

Monitoring and Evaluation of a computerized tax system

The purpose of a monitoring and evaluation system is to determine whether the outputs and deliverables have been achieved as planned so that necessary action can be taken to rectify the deficiencies as quickly as possible. It was indicated that evaluation mainly focuses on the performance indicators selected during the initial stage of implementation, including the ease of paying taxes, reduced processing time for tax returns and identifying the reasons behind non-satisfactory performance in any particular area (ADB 2014, p. 68).

At present many countries have adopted computerized tax systems to benefit of their traditional tax system. 'Globally, tax authorities are being challenged to harness the power of information and communication technology (ICT) to achieve greater tax compliance efficiency' (Ling and Muhammad 2006, p.147). According to Chatama (2013, p.93), with the introduction of ICT, the Tanzania Revenue Authority (TRA) made significant improvements. Integrated Tax Administration System (ITAX) improved taxation by speeding up the administrative processes, timely monitoring of taxpayers, their penalties and its interests, and increase of revenue. Hence ITAX contributed to fair, effective and efficient taxation and increase in revenue, as well as supporting TRA's vision of becoming a modern tax administration mechanism (Shekidele 2007, cited in Chatama 2013).

Based on the findings of the study by Lukwata, 2011, it is evident that the electronic tax filing system implemented in Uganda has improved tax compliance as it is easy for tax payers to assess their tax obligation accurately and enable them to file their returns on time. On the other hand, the new system has helped ease the work of the Uganda Revenue Authority (URA) staff and to an extent led to an increase in tax collection in URA.

As mentioned above, most of the developed countries have adopted a computerized tax system. Jimenez, Sionnaigh, and Kamenov (2013, pp 44-49) concluded in their study that there were issues during implementation, including a delay of over a year and modules with ongoing quality control problems in the Integrated Tax Management and Administration System (ITMAS) in Egypt. It was also indicated in their research that with the Georgia Business Climate Reform (GBCR), the tax administration had seen a 121% increase in the number of registered taxpayers from 2005 to 2008 and an increase by 133% in the number of returns filed between 2005 and 2009. As per their study, the computerized tax system implemented in Costa Rica provided considerable benefits including reduction in administration and compliance costs, reduction of errors, streamlining of internal business processes, and a reduction of the time to collect information from tax returns from days to hours.

Victor – Nyambo's tests done in Tanzania regarding the usage of Information Communication Technology (ICT) at Large Taxpayers Department (LTD) in 2009 (cited in Chatama 2013, pp. 95-96) revealed that 88.8% of staff agreed that the introduction of ICT at the LTD had shortened the lengthy and cumbersome manual procedures and that ICT usage had minimized errors in return processing and in assessment. Further, 100% of large taxpayers agreed that processing time and responding to taxpayers queries had been reasonably shortened due to this ICT.

Challenges to diffusion

Tax authorities around the world have faced many obstacles in their quest to automate tax systems. The Asian Development Bank has also identified key challenges a tax agency would face when implementing a Tax Management Information System. As per ADB (2014, pp. 71-72), the challenges a tax authority could face when implementing Management Information System are as follows:

- *Resistance to change*
  Employees may resist the change to new ICT systems mainly due to lack of management buy-in before implementation, lack of involvement of staff in early trial runs, and a multi-layered decision making structure leading to a lack of a clear vision on the goals of the ICT program.

- *Lack of standard process*
  Maximum benefits from an ICT system can only be achieved if standard processes are followed. Lack of standard processes can lead to problems such as: inability to choose an effective IT system, high possibility of duplication, inaccurate data being fed into the system and misalignment of chosen ICT systems.

- *Lack of Trained ICT Personnel*
  Most tax agencies hire firms from outside to implement their ICT systems but the lack of a strong ICT team within the tax agencies would seriously hamper the ability to extract maximum value from an ICT partnership.

- *Demographics of Staff*
  The standard argument is that an older workforce will not see the benefits of computerization as much as a younger workforce. This results in lack of staff buy-in at the initial stages of a project.

3. METHODOLOGY

Population and Study Sample

Since the research was based on a project pursued within the IRD, the population of the study was designed to consist of IRD employees. Due to the practical difficulty in covering all IRD staff members within the given time and due to the political sensitivity of the project, the study had to limit its sample to the top level personnel of IRD. Data had to be gathered on a snow balling basis until the theoretical saturation point was reached. Accordingly, the study sample was as follows;

Table 1: Profile of Respondents

Position	Code	Method used	Duration
Commissioner- RAMIS Project Director	Interviewee I	Face to face Interview	45 minutes
Head of Central Processing unit	Interviewee II	Face to face Interview	30 minutes
Central Processing unit- Executive Staff	Interviewee III	Face to face Interview	30 minutes
Senior Commissioner	Interviewee IV	Telephone Interview	30 minutes
Asst. Commissioner- User Accepting Testing (UAT)	Interviewee V	Telephone Interview	30 minutes
Commissioner- Human Resource Management VI Unit	Interviewee VI	Telephone Interview	30 minutes
Commissioner - Policy and Legislation Unit	Interviewee VII	Telephone Interview	30 minutes
Commissioner - Change Management Unit	Interviewee VIII	Face to face Interview	45 minutes
Commissioner - Customer Supporting and Promotion Unit	Interviewee IX	Face to face Interview	30 minutes
Commissioner- Investigation Unit	Interviewee X	Telephone Interview	30 minutes

Sources of Data

Data for this study was sourced through interviews and documents. Top level personnel of IRD, who were involved in Phase I of the RAMIS project, were interviewed. Further, important documents such as relevant project documents, reports issued by the Inland Revenue Department and other documents which discuss various aspects of RAMIS were reviewed in order to gather relevant data. Internal organizational documents inclusive of internal reports, annual performance reports and external organizational documents inclusive of the documents of the Asian Development Bank supporting the Fiscal Management Efficiency Project and documents of MOF were used. Published data was obtained from Department websites (IRD and MOF), annual reports and government department websites.

Collection of Data

In collecting data initially documents were gathered which also proved to be valuable in identifying and selecting relevant key officials for the interviews. Initial interviews were held on an unstructured basis to allow participants to respond in an unconstrained manner. Based on the initial interview findings, an interview guide was prepared for subsequent interviews so that they could be completed within approximately one hour and contained open ended questions (Appendix 1). Interviewees were only capable of yielding qualitative data since no statistics were available to obtain quantitative data as the IRD has not yet initiated evaluations of the system.

Data Analysis Strategies

The data gathered through interviews was transcribed and extracted to identify common responses. A narrative analysis was used to analyze the data and a documentary analysis based on the documents gathered to extract findings and also to support claims put forward in interviews.

Ethics and Human Subjects Issues

The researchers obtained a voluntary consent from the interviewees involved by clearly informing them of the nature and objective of the research. Further, there was no unfair inclusion and exclusion from the sample of the study. The study ensured confidentiality of the interviewee responses and identities and also the secrecy of the documents received which were used only for the intended purpose. To maintain anonymity, codes were used in attributing quotations in the subsequent chapters.

4. ANALYSIS AND DISCUSSION

A process of innovation passes through a series of stages before the reform becomes accepted practice (Rogers 1983). Hence, the first objective of the study was to identify the way RAMIS had been adopted and implemented within IRD and to analyze whether it was in line with Rogers' (1983) stages of diffusion of innovation theory, and whether there was any deviation in the execution from the initial implementation. As per Rogers (1983, p.5), diffusion of innovation theory is comprised of five separate stages, namely prior conditions, knowledge, persuasion, decision, implementation and confirmation.

Prior Conditions

As stated by Rogers (1983), prior conditions accompanying a degree of receptivity to the RAMIS in the IRD had been identified. First, the problems with existing practices had been realized by officials of both IRD and the Ministry of Finance (MOF). During the interviews it was constantly highlighted that the existing system had been incapable of improving the government tax income base over the years (Ministry of Finance 2015).

> *We have been observing the fact that the existing tax system does not assist in improving the tax revenue of the government and mitigating those who avoid tax payment through loopholes of the current tax system. So it has been a long prevailing requirement to adopt a system that is capable of providing a solution to those problems.*
>
> Interviewee I

Knowledge

The existence of change agents with adequate skills and expertise is paramount for any organization which intends to create a desire for new practices (Rogers, 1983). In regard to RAMIS, both MOF and IRD acted as key change agents providing the needed commitment and resources in promoting the system.

> *Being a project director of the RAMIS project, I and my team worked hard at the forefront even at the times when some of the officers failed and were demotivated due to various obstacles we faced.*
>
> Interviewee I

The needed peripheral platform was already in place within IRD. All the required infrastructure facilities such as a Data Centre and Disaster Recovery Centre were established at the beginning of 2010, under the initiative of the Ministry of Finance on the Fiscal Management Reforms Programme (FMRP) and the Fiscal Management Efficiency Project (FMEP). Further, Local Area Network (LAN) and Wide Area Network (WAN) were also introduced in order to link all the regional offices to the head office and also to link branch to branch (Central Bank of Sri Lanka 2014).

However, the application was yet to be developed. In order to select an IT solution provider for this, a global tender process was initiated. The main criterion of selection was adequate experience on automation of tax systems. But, several applicants were disqualified as they did not have the adequate required experience to handle such a complex project.

As the tender process failed, the Cabinet of Ministers approved starting discussions with the Ministry of Finance of Singapore seeking assistance to implement RAMIS on a Government-to-Government basis (G2G). During the interviews several reasons were given as to why Singapore was selected for this.

> *There were several reasons for selecting Singapore. The main reason is that Singapore has the best functional method for this kind of automated tax system. Further its locational proximity to Sri Lanka with fewer entry barriers and also Singapore's record of some projects on automation of the tax system in Australia and in some other countries gained the popularity for pioneering the automation of their own tax system.*
>
> Interviewee I

> *Singapore was well known for the successful implementation of RAMIS within their IRD and their quality of service was also backed by the successful implementation of RAMIS in several other countries*
>
> Interviewee VIII

Finally, a Memorandum of Understanding (MOU) was signed in June 2013 to implement the RAMIS project at IRD. As per the MOU Infocomm Development Authority (IDA - International), the Government of Singapore's execution arm for collaboration with overseas Governments on ICT projects, submitted a proposal in August 2013. IDA International is a wholly owned subsidiary of IDA Singapore set up for collaboration with foreign governments on public service infocomm technology to achieve socio-economic outcomes for the respective countries. IDA International engages the necessary subcontractors to plan, analyze, design and implement the tax system with the participation of the relevant tax authority.

> *.... Commissioner General of IRD, Secretary of Finance Ministry and IDA International entered into an agreement. System development has been delegated to NCS Company. It's not a Singapore government company. Singapore Tax IT project was also done by NCS.*
>
> Interviewee I

The Cabinet Appointed Negotiation Committee (CANC) and the Project Committee (PC), having conducted a detailed technical evaluation of the proposal submitted by IDA concluded the evolution process in November 2013, deciding that the solution proposed by IDA is technically acceptable and fulfills the requirements of the Inland Revenue Department. A further Due Diligence process was carried out in November 2013 by the Commissioner General and a Core Team of the IRD by visiting the Inland Revenue Authority of Singapore and it was concluded that IDA and its nominated subcontractors had the capability and required experience to undertake the implementation of RAMIS at IRD.

Negotiations were started in January 2014 to finalize the work scope of RAMIS, the teams of contract, etc. Specifications were formulated by the IRD officers and the software developer informed of them. The supply, delivery, installation, commissioning and warranty of Application Software, System Software and Supporting IT Infrastructure were concluded in March 2014.

During this pre-implementation period both parties to the agreement got a clearer understanding on the specifications of RAMIS, its deliverables and the time plan. This shows that the policy and decision makers had the required knowledge of the innovation process (RAMIS) before implementation of the project which is needed in the diffusion process.

Persuasion

Acceptance of the need to adopt current international reforms is determined by the ability of promoters to convey the superiority of the new practices over existing practices (Adhikari et al. 2013). Once the agreements were in place, a Change Management Committee was established in order to plan the changeover and communicate the changes under RAMIS. The main task of the team was to influence the IRD employees and to organize change management programmes.

The Change Management Committee comprised IRD Change Agent, Project team

Change Manager, IRD Deputy General (Head of the Team) and Project Director. Changes were communicated through RAMIS News, RAMIS Mass briefing sessions, Monthly Commissioner's and Senior Commissioner's meetings and at Monthly Steering Committee meetings which were attended by all the Deputy Commissioner Generals along with the Commissioner General .

The change management team has taken several steps to improve the awareness among employees through publishing magazines, distributing leaflets and displaying posters in their own working environment at IRD. They have also held seminars to change the attitudes towards the RAMIS. In addition to that IRD has sent 1200 officers to Inland Revenue Board of Malaysia for a five-day training programme to see and understand how to work on an automated system. They played a major role in organizing pocket meetings for branches at IRD and practical training sessions for both IRD staff and users.

Interviewee I

Accordingly, IRD has conducted series of weekend in-house seminars for all IRD staff with regard to Change Management. Further, mass briefings for taxpayers and supporting organizations such as the Chamber of Commerce, CA Sri Lanka, CIMA, AAT, Tax Agents and Tax Consultants were also conducted and are still in progress so that continuous communication is maintained (Department of Inland Revenue 2013).

The mass briefings held with tax payers and related institutional bodies are very important to ensure the smooth functioning of the platform. This is a new initiative not only to the employees but also to the tax payers. There could be system failures and fear of using IT systems. The mass briefings serve as a contact point for IRD to track such weak points.

Interviewee X

However there had been some instances where the employees showed a resistive attitude towards the new system.

I regret to say that some of the employees of IRD engaged in various ways of resistance to stop the changeover programme. They spread bad word of mouth and did not contribute to the implementation process.

Interviewee I

The older workforce and employees who don't have computer literacy raised objections. However, these objections were nullified by linking them to their promotions. Biannually the Commissioner evaluates the performance of the employees. The employees who didn't complete the allocated jobs will receive negative marks. Therefore IRD higher level officers expect that the employees will automatically adjust to the new RAMIS environment.

Interview II

Decision

The decision stage occurs when the decision making unit engages in the activities leading to a choice between adoption or rejection of the innovation (Rogers 1983). Prior studies have established that any new accounting practice can be launched through in various means, ranging from continuation to later approval and from disagreement to rejection (Adhikari et al., 2013). It was observed during the interviews conducted with the IRD staff that even though higher level authority had taken the decision to continue with the new system, some of the staff had doubts over the decision of getting involved actively in the execution of RAMIS.

Cabinet approval was granted for the RAMIS Project on April 3, 2014 according to the decision taken by the responsible actors for the implementation. The agreement between IRD and IDA International was signed in May 2014 including all the terms and conditions finalized during the stage of negotiations. The project officially began in July 2014 (Department of Inland Revenue 2014).

Implementation

Initiating the implementation stage, IRD formed a RAMIS Core team comprising five members. It is different from the RAMIS project team and the main purpose of the core team is to coordinate with the Government of Singapore and the software developer, NCSI Solutions Private Limited. Monitoring and tracking the progress of the project is also conducted by the Core team.

IRD was internally organized to support RAMIS initiatives and accordingly IRD's business experts were organized into Lead User Representatives (LURs) and Subject Matter Experts (SMEs) to provide and validate requirements. LUR consists of Senior Commissioners and their role in RAMIS is requirement identification. SME consists of twelve Commissioners from whom information regarding current state of operations is obtained.
Under RAMIS, IRD has gone through Business Process Re- engineering (BPR) and it uses the Inland Revenue Authority of Singapore (IRAS) as the reference model. As part of RAMIS BPR, the project team has studied the existing processes working with IRD LURs and SMEs to understand and document the main points. The RAMIS processes are customized to address the key main points.

The system developer aims to streamline each process both from within IRD and also externally from the taxpayer perspective. Key changes through RAMIS were e-registration giving convenience to taxpayers register from their office or home instead of coming down to IRD office, e-payment leveraging on the bank's online payment facility with key banks BOC and People's Bank, Centralized Processing Centre at Headquarters for centralized action for data entry, Regional Processing Centre for all regional works on data entry and scanning and linkages with external interfaces. Further, it provides for use of multi-languages across forms and correspondence. This is also apparent in the newly launched web portal as well.

During the interviews the linkage with external interface was emphasized.

> *Actually the linkage with external interfaces is the most important feature under RAMIS and IRD have identified 23 such agencies to be interfaced. The two main government banks which are the People's Bank and BOC now have already connected. An MOU*

> *has been signed with the Excise Department and Department of Customs.*
>
> Interview VI

As per diffusion theory, at this stage innovation can be reinvented, altered and modified as the need arises. This characteristic was also seen in the implementation process of RAMIS. Once a module has been handed over to IRD by the software developer, it goes through system integration testing and user acceptance testing where the service provider will be asked to alter and modify some of the parts as per the requirements of IRD.

An individual needs to be there to convince others that the change is desirable and who is capable of promoting it (Sangster 1996). The Change Management Team of IRD, being a predominant change agent for RAMIS staff, was convinced about adapting to the new change. As indicated in the studies (Clegg et al. 1996 cited in Ezzamel et al. 2014) the process may be shaped by different forms of communication which was apparent in RAMIS facilitated by different form of communications such as training sessions, pocket meetings, and seminars and publishing leaflets and magazines.

Confirmation

Confirmation, the last stage of the Rogers' diffusion theory, can have two opposite effects on the diffusion process, namely, the adopters realizing the benefits of the innovations and institutionalizing them or rejecting the utilization of such innovations, as the desired paybacks are not actually gained in practical situations.

In terms of RAMIS, execution of the above stages has been behind the scheduled target timeline and there were deviations from the intended plan. Despite the slow transition, the processes have been implemented successfully and have been embraced by both employees and taxpayers and institutions.

> *Actually, we could not implement this project as per the time plan. This is mainly due to the considerable deviation in the time that occurred in the testing phase due to unexpected small issues and the time consumed to resolve those issues. However, now we are at the final stage. At present, services cater to users have been implemented as planned, such as Web portal and E filing.*
>
> Interview III

Taking the above findings of the study into consideration, the study emphasizes that the diffusion of Revenue Administration Management Information System can be understood as a process which followed Rogers' stages of diffusion extending from prior knowledge to confirmation. The innovation of RAMIS can be considered a clearly defined process of several stages, with time frames being assigned as indicated by Lapsley and Wright (2014).

Deviations in the proposed plan

Although the time frame for each stage was included in the initial agreement, it deviated from the plan due to various practical reasons. Budget changes and delays due to the rigorous procedure to follow in obtaining approval of MOF for funds, little support from other organizations with whom IRD depend for external interface can be seen as critical drawbacks in achieving the expected outcomes.

Lack of an upgraded IT system in other organizations (e.g., Department of Registration of Companies) to be compatible with RAMIS has also adversely affected timely execution of objectives. Further, unexpected errors occurred at the testing phase and considerable time was consumed to solve those errors has prolonged the time to complete the project more than intended.

As identified in the background to the research subject, the execution of RAMIS had been undertaken with the guidance, active participation and interaction of several key players from multifunctional teams. As per the interviews held with IRD staff, following parties were identified as key stakeholders to the project.

Ministry of Finance and Planning (MOFP)

The Ministry of Finance introduced the Fiscal Management Reforms Programme with the objective of creating fiscal space through revenue collection and better expenditure management. MOFP is identified as the main catalyst that triggered the transformation process. As one interviewee said;

> *With the shortcomings of the old system, the (Legacy) concept of RAMIS emerged within IRD. But the ministry (MOFP) got involved since it's not feasible to pursue such a huge project only by IRD staff.*
>
> Interviewee IX

However, the interviewees also revealed that the support from MOFP was short-lived. Though they triggered the innovation process and pioneered the initiation, their support diminished subsequently during the implementation process.

Asian Development Bank (ADB)

ADB extended funding and technical assistance needed for the RAMIS implementation. It provided support in areas such as implementation of AS-IS Study and Functionality analysis, in introducing internally acceptable RAMIS and ITMIS, development of architecture definition and design for RAMIS and ITMIS and improvement of the ICT environment from legal, regulatory, and institutional perspectives.

Interviewees acknowledged the assistance provided by the ADB as follows:

> *ADB helped in the initial stages to acquire hardware. They supported establishing LAN and WAN by providing required funds. Further, it supported setting up of Local Area Network (LAN) and Wide Area Network (WAN) in order to link all the regional offices to the head office and also to link branch to branch in the head office.*
>
> Interviewee IV

Inland Revenue Department (IRD)

IRD being the platform upon which the RAMIS was launched, it can be recognized as a prime actor. Teams appointed such as the project team, core team, and the change management team facilitated the transition.

According to the opinion of one interviewee,

> *Project Directors and especially the higher level authority of IRD are considered key players of RAMIS. The Commissioner General plays a key role as she is responsible for the overall project. Further, nine additional project directors have been appointed. Each project director has been assigned separate modules in RAMIS. Further sixty assistant project directors have been appointed to overlook RAMIS at operational level.*
>
> Interviewee X

Members of those teams are engaged in crucial activities including facilitating communication with Infocomm Development Authority of Singapore (IDA) and National Computer Systems Private Limited (NCS), collection of suggestions with regard to RAMIS from all IRD officers, submission of Due Diligence Reports after visiting Inland Revenue Authority of Singapore (IRAS) f from November 10 to 13, 2013 and implementing awareness programmes among the IRD staff and union members.

Infocomm Development Authority (IDA) of Singapore

RAMIS was initiated as a G2G project, one of the models of e-government as stated by Siau and Long (2005). Technical know-how was supplied by IDA through the discussions held between Sri Lankan and Singapore Government. IDA in collaboration with the IRD engaged with the necessary subcontractors to plan, analyze, design and implement RAMIS. IDA serves as the prime contractor and provides project oversight on behalf of MOFP and IRD. IDA was the representative body of the Government of Singapore and is the party from which the diffusion of innovation commenced. Finally, as per the third objective of the study, the following challenges were identified during Phase I of the implementation of the project, as drawbacks to the diffusion process.

Issues in requirement assessing stage

The requirements assessing stage is one of the initial steps in RAMIS where teams allocated for each module were required to identify the requirements of respective modules. Project teams were assigned to study the existing processes and thereby identify the main points.

In the opinion of one interviewee,

> *At the initial stages IRD officers had an opportunity to learn about the Singapore tax system and identify specifications for RAMIS in Sri Lanka. However, the officers selected for those tours were at their retirement age and had no intention of understanding the process in detail. Some officers who participated in such training programmes had retired even before the implementation of RAMIS. Hence there were difficulties in identifying the requirements of a tax management information system suitable for local conditions.*
>
> Interviewee V

However certain teams were not able to identify some of the crucial requirements and thereby the system failed to respond to user requirements. For instance, the VAT module does not have a sub module to calculate penalty for non-payment of VAT within the stipulated date.

Demographics of Staff

During the interviews it was identified that the younger generation of staff were willing to embrace the new system when compared to the older workforce. But most of them have not been equipped with proper training.

> *Lack of training for staff has created doubt over the new system. Certain senior individuals are not willing to learn the new system since they know that the old system "legacy" will operate parallel with the new system for a certain period of time. Further, more than 50% of staff has not been allocated work items in RAMIS. Thereby they have no knowledge of the new system. For example, KPIs have been integrated into the system upon which individuals will be evaluated. But most individuals do not know this and assume performance evaluation will be carried out by the old method.*
>
> Interviewee V

This is a common issue as stated by ADB (2014, pp. 71-72). The standard argument is that an older workforce will not see the benefits of computerization as much as a younger workforce. This results in lack of staff buy-in at the initial stages of a project (ADB 2014, pp.71-72).

System Loopholes: Weak interlink between the modules

During the training programs offered to IRD staff, training concentrated only on the respective module in which the respective staff will work . Overall understanding regarding the system was not given to employees. As a result, employees are not aware of what others perform. This reduces flexibility and mobility within tasks.

When inquired about the reason for such a strategy, the top management highlighted that it has been restrained from giving an overall understanding about the new system to all employees because they fear that employees may resist the new system if they try to load them with all available information. However, the system itself has failed to maintain interlinks between its sub-modules.

> *For the main types of taxes we have different modules. For example, we have a VAT module and a NBT module. If the tax payer changes the address and notified it to the VAT unit changes will be incorporated into the VAT module. But no alert is sent by the system to other sub modules informing about the address change. Hence this may result in returns being undelivered.*
>
> Interviewee VII

Failure to meet the agreed deadlines

As per the plan, Phase I of RAMIS was scheduled to be implemented in September 2015. But as per the interviews, it was revealed that Phase I was actually implemented at the beginning of 2016. Reasons like delays in the government tender system, delays in finding technically competent service providers and resource persons, variations to the initial plan during the process, etc., contributed to the overall delay in the process. However, the delay had not affected the expected the final outcome.

> *I experienced delays in implementing Phase I. This resulted in failure to achieve prescheduled deadlines. However we were able to computerize all the tax types which we planned initially. Hence it did not affect the target achievement.*
>
> Interviewee IV

Document management cost been high
Tax payer returns are not directly uploaded to the RAMIS. IRD intended to run the manual system parallel with the new system for next five years. For example, tax payer returns received as hardcopies are scanned by the CPU and updated to the RAMIS. Simultaneously IRD files the original hardcopy of the return as per the old manual system.

Failure to link other Government institutions with IRD system
RAMIS external interface is one of the modules which connect RAMIS with twenty-six other departments. Of these institutions only the two main government banks, People's bank and BOC, have been linked to RAMIS at present.

Linking the private banks to this system has been an issue due to Central Bank rules and regulations. CBSL approval has yet to be obtained to link their data with IRD. The main cause of failure to develop the linkage is that the systems of respective organizations are not compatible with the RAMIS system. Only Sri Lanka Customs possess a system compatible with RAMIS. MOU has been signed with the Excise Department and the Customs regarding this interlink.

Another reason is that certain government institutions fail to maintain computer databases. Government departments such as the Department of Registration of Companies, Land Registry, Department of Registration of Persons, Department of Census and Statistics and Department of Motor Traffic maintain manual records in place of computer databases.

Further, the Department of Motor Traffic (MTD) has difficulty in sharing information because necessary permission has not been granted under the Motor Traffic Act. However, this issue has not been discussed with the respective Minister and since the Inland Revenue Act supersedes other Acts of the country, IRD will be able to obtain the permission to interlink their database with that of MTD in the near future. However, these will further delay the implementation process.

Providing adequate Training to IRD staff
IRD has up to now provided the theoretical aspects of training but has failed to offer adequate practical training on overall RAMIS processes. This is because resources such as computer labs are not sufficient to fulfill the training requirements of the staff.

> *Theory aspects of the overall system were given to the employees. But the practical training given to them is not adequate. Employees were not given training in all of the modules and because of that the link between sub modules can't be maintained.*
>
> Interviewee VI

Jimenez, Sionnaigh, and Kamenov (2013, pp 44-49) concluded in their study that while the Integrated Tax Management and Administration System (ITMAS) in Egypt made considerable progress, there were issues during implementation, including a delay of over a year. The findings of the study were similar to the aforementioned issues such as delays in some of the modules, varying contribution from the staff towards the change and developing the RAMIS external interface.

5. CONCLUSIONS, LIMITATIONS AND DIRECTION FOR FUTURE RESEARCH

RAMIS is the initial step of automating the Government's treasury function (ITMIS). Through this, IRD expects to increase the efficiency of the tax administration by reducing human error in the current system. As one step of a giant leap, RAMIS it is an extremely complicated and novel process to Sri Lanka. The main purpose of this study was to analyze the evolution of RAMIS Phase I within the IRD of Sri Lanka.

This study aimed to achieve three major objectives. Firstly, to identify the progression of the RAMIS project Phase I and highlight any deviations in the proposed plan. Diffusion of innovation theory was used in this regard; secondly, to identify key stakeholders of the project, their role and impact on the project; and finally, to recognize the challenges faced during the implementation process.

Findings under objective I of the study reveal that the process through which RAMIS progressed up to the present status has been in line with the stages identified by Rogers (1983), namely, knowledge, persuasion, decision, implementation and confirmation. However, there have been deviations from the initial time plan due to specific reasons such as design errors, change in the scope, inadequate procurement and complexity of the system. This reveals a lack of planning and system study prior to implementation.

In regard to the second objective, the execution of RAMIS has been undertaken with the guidance, active participation and interaction of several key players from multifunctional teams. The Ministry of Finance and Planning as the pioneering stakeholder triggered the need for the project RAMIS within the Inland Revenue Department. The Asian Development Bank was identified as the funding agent while IRD and its staff are the main parties handling the transition. Being the IT Solution facilitator, Infocomm Development Authority (IDA) of Singapore is also an important stakeholder providing technical know-how. Even though several parties were recognized as key stakeholders, the Inland Revenue Department and especially the core teams appointed at the inception are playing the predominant role in bringing the system to the stage of completion successfully.

Fulfilling the third objective of the study, several challenges have been identified during the implementation process including the varying contribution given by the staff and inadequacy of practical training provided to staff. Moreover, pitfalls were also identified in terms of incongruence in the external interface developed through which RAMIS is linked to several other government institutes.

Hence based on the above findings, this study concludes that though the diffusion of RAMIS is in line with the stages put forward by Rogers (1983), it has not been executed effectively owing to political interference, fading support from pioneering entities and lack of buy-in from the staff.

However, this study has certain limitations. First, the scope of the study is limited to Phase I of the RAMIS project rather than to the whole project as highlighted earlier. Hence this study only covers the evolution of Phase I and therefore fails to answer the research question from the standpoint of the whole RAMIS project. Secondly, this study is based on the insights of IRD staff, obtained during the data collection for the research. Thirdly, due to practical difficulties the study could not cover all employees of the IRD. Therefore convenient sampling had to be used. However, this convenience sampling adopted in the study could make the sample biased leading to biased perspectives being analyzed in the study. This prevented the study from getting objective information needed to ensure the credibility and dependability of the study. Finally, this study involved the problem of generalizability across other government institutions due to possible cultural mismatches.

Future studies could focus on the implementation of Phase II of RAMIS and whether lessons learnt from Phase I implementation were addressed. In addition, it is suggested that studies be conducted inclusive of relevant quantitative information on performance so that a more accurate evaluation could be made on the impact of RAMIS on the effectiveness of RAMIS. Studies could also focus on the change management aspect analyzing the driving and restraining forces within IRD which induce and restrict adoption of RAMIS.

REFERENCES

Adhikari, P, Kuruppu, C, Wynne,A and Ambalangodage D 2015, 'Research in Accounting in Emerging Economies', *Diffusion of the Cash Basis International Public Sector Accounting Standards in Less Developed Countries- The Case of the Nepali Central Government,* vol. 18, no.15, pp.85-108, viewed 8 May 2016, http://repository.essex.ac.uk/15302/1/Diffusion%20of%20the%20Cash%20Basis%20International%20Public%20Sector%20Accounting%20Standard%20%28IPSAS%29%20in%20Less%20Developed%20Countries%20%28LDCs%29.pdf

Asian Development Bank (ADB) 2014, *Tool kit for tax administration management information system,* viewed 25 April 2016, http://www.adb.org/sites/default/files/publication/150133/tool-kit-tax-administration- management-information-system.pdf

Central Bank Sri Lanka 2014, *Annual Report*, Viewed 20 May 2016, p.142, http://www.cbsl.gov.lk/pics_n_docs/10_pub/_docs/efr/annual_report/AR2014/English/10_Chapter_06.pdf

Chatama, YJ 2013, 'The impact of ICT on Taxation: the case of Large Taxpayer Department of Tanzania Revenue Authority', *Developing Country Studies*, vol. 03, no.02, viewed 7 May 2016, http://www.iiste.org/Journals/index.php/DCS/article/download/4258/4327.

Department of Inland Revenue Sri Lanka 2013, *Performance Report of the Commissioner General of Inland Revenue*, pp.46-47, viewed 27 April 2016, http://www.ird.gov.lk/en/publications/Annual%20Performance%20Report_Documents/P R_2013_E.pdf

Department of Inland Revenue Sri Lanka 2014, *Performance Report of the Commissioner General of Inland Revenue*, pp.10-58, viewed 27 April 2016, http://www.ird.gov.lk/en/publications/Annual%20Performance%20Report_Documents/

P R_2014_E.pdf

Ernest, EO, Fikayo, F, Ogheneovo, E and Ayodeji, J 2015, 'Design and development of an E- taxation system', *European Scientific Journal*, vol. 11, no.15, viewed 7 May 2016, http://eujournal.org/index.php/esj/article/viewFile/5615/5406.

Ezzamel, M, Hyndman, N, Johnsen, A, and Lapsley, I 2014, 'Reforming Central Government Accounting: An evaluation of an accounting innovation', *Critical Perspectives on Accounting*, vol. 25, no.4-5, pp.409-422.

Jimenez, G, Mac an Sionnaigh, N and Kamenov, A, 2013, *Information Technology for Tax Administrations*, USAID Bureau for Economic Growth, Education and Environment, Office of Economic Policy, viewed 7 May 2016, http://pdf. usaid. gov/pdf_docs/PNAEA485. pdf.

Lapsley, I and Wright, E 2004, 'The diffusion of management accounting innovations in the public sector: A research agenda', *Management Accounting Research*, vol. 15, no.3, pp.355-374, viewed 10 May 2016, http://isiarticles.com/bundles/Article/pre/pdf/8259.pdf

Ling, LM and Muhammad, I 2006, 'Taxation and Technology: Technology Readiness of Malaysian Tax Officers in Petaling Jaya Branch', *Journal of Financial Reporting and Accounting*, vol. 04, no.01, pp.147-163, viewed 7 May 2016, http://dx.doi.org/10.1108/19852510680001587.

Lukwata, MH 2011, *The influence of Electronic tax filing system on Tax compliance and Tax collection*, viewed 7 May 2016, https://www.academia.edu/1821339/THE_INFLUENCE_OF_ELECTRONIC_TAX_FILING_SYSTEM_ON_TAX_COMPLIANCE_AND_TAX_COLLECTION.

Malmi, T 1999, 'Activity-based costing diffusion across organizations: an exploratory empirical analysis of Finnish firms', *Accounting, Organizations and Society,* vol. 24, no.04, pp.22-24, viewed 8 May 2016, http://www.tecsi.fea.usp.br/disciplinas/5840/textos/pdf/activity-based.costing.diffusion.pdf

Mellett, H, Marriot N and Macniven, L 2009, 'Diffusion of an accounting innovation: fixed asset accounting in the NHS in Wales', *European Accounting Review,* vol. 18, no.04, pp.745-764, viewed 8 May 2016, http:// 10.1080/09638180903118710

Ministry of finance (MOF) 2015, *IT projects*, viewed 27 April 2016, http://www.treasury.gov.lk/web/department-of-information-technology- management/links.

Rogers, E 1983, *Diffusion of innovations,* 3rd edn, viewed 10 May 2016, https://teddykw2.files.wordpress.com/2012/07/everett-m-rogers-diffusion-of- innovations.pdf

Sangster, A 1996, ‘Expert system diffusion among management accountants: a U.K. perspective’, *Journal of Management Accounting Research*, vol.8, pp. 171–182, viewed 8 May 2016, https://www.researchgate.net/publication/211393614_Expert_System_Diffusion_Among_ Management_Accountants_A_UK_Perspective

Siau, K and Long, Y 2005, ‘Synthesizing e-government stage models – a meta synthesis based on meta-ethnography approach’, *Industrial Management and Data Systems*, vol.105, no.04, pp.443-458, viewed 8 May 2016, http://dx.doi.org/10.1108/02635570510592352

APPENDIX 1
Questionnaire

Objective 01: To identify the progression of the RAMIS project through its initial stages till Phase I and highlight any deviations in the proposed plan, if any.

1. In your view, what are the motives behind the idea of a computerized tax administration system?
2. Who do you think will benefit most through this RAMIS implementation? As a department IRD or the tax payers at large?
3. How did you identify the real needs of the tax payers?
4. What is the level of involvement of the Ministry of Finance in this project? What is the significance of this project to the government?
5. What are the procedures followed to acquire resource persons to maintain the system ? Who is the funding agent of the project?
6. What is the monitoring and evaluating procedure established to measure the progress of the project?
7. What procedure was used to select the professionally competent software developer for the project?
8. Explain the timeframe of the RAMIS project along with the stages of Phase I? Were you able to achieve the agreed deadlines? Were there any deviations from the proposed plan? What are the reasons, if any?
9. Did the Department conduct test runs before handing over the project to the users?
10. What kind of training sessions was held for the staff and the level of importance of those trainings? What are the results achieved through those sessions?

Objective 02: To identify the key players of the project and their role and impact on the execution of the project.

1. In your view who are the key contributors to the initiation of RAMIS?
2. On what basis was each of the above mentioned persons defined as key players?
3. At which stage did you identify key players? At the planning stage or during carrying out the project?
4. Had duties been properly delegated among key players at the planning stage of the project?
5. Through which means were key players expected to accomplish the objectives as intended?
6. Did you face any conflicts when dealing with key players? If so, what are the steps you took in order to carry out the project smoothly?
7. Were there any changes in the IRD organizational structure? Was the change management team capable of managing any conflict that arose?

Objective 03: To recognize the challenges faced during the implementation process and weaknesses of the project that could be identified at the end of Phase I.

1. What issues did IRD face during the implementation of Phase I of RAMIS?
2. RAMIS facilitated an external interface that can improve information flows by sharing needed information with all parties involved in trade such as private participants i.e. banks, insurance companies and public agencies like customs, immigration and vehicle registration authorities etc. But it is not an easy task to link all those parties. Thus, what kind of challenges did IRD have to face during the implementation of this external interface?
3. The standard argument is that an older workforce will not see the benefits of computerization as much as a younger workforce. How did IRD treat the older workforce when RAMIS was implemented?
4. What methods did IRD use to enhance public awareness regarding RAMIS? What kind of difficulties did IRD have to face when using each method?
5. How could IRD identify the system loops in the Revenue Administration Information System? What actions were taken to deal with the system loops?

Department of Accounting
Accounting

Department of Accounting
Faculty of Management Studies and
Commerce University of Sri
Jayewardenepura, Nugegoda, Sri Lanka
http://mgt.sjp.ac.lk/acc

ISSN 2362-0609
9 772362 060008