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Investigation of Daily Macronutrient intakes by Sri Lankan Managerial Level Employees working in the Private Sector

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Abstract

With changes of lifestyles and social values in the food culture, many individuals working as managerial level employees in the as private sector are seemingly selecting more improper daily meal combinations. This study was designed to determine whether this occurrence can have a severe impact to imbalance the daily nutrient intakes by the individuals in the mentioned social segment, which increase the tendency of having nutrition related chronic diseases. In a hierarchy range from junior executives to CEOs of private sector organizations, 800 individuals were selected by disproportionate stratified random sampling. Selected individuals are interviewed using a structured questionnaire to assess their daily food combinations and their consumed portion sizes. Frequently consumed meal combinations were then analyzed for their macronutrient composition, to compare with world Health organizations' (WHO) Reference Dietary Intake (RDI) levels of nutrients. The results reveal of significantly ($p<0.05$) higher daily fat (45.3 ±1.7 g/day) and protein (65.2 ±1.4 g/day) intakes than the WHO recommendation levels and significantly ($p<0.05$) lower in dietary fibre (22.3 ±1.1 g/day) contents by selected participants. Carbohydrate intake (133.1 ±2.2 g/day) was higher than reference levels but was not significant ($p>0.05$). This indicates of a considerable risk for many individuals in the concerned social segment, of having non-communicable diseases, if observed dietary patterns are continued.

Key words: dietary fibre, protein, fats, carbohydrates, Managerial-level-employees, Private-sector

Introduction

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With increased urbanization, energy-rich diets containing higher amount of fat and sugar, which also provide less dietary fibre and essential micronutrients are being frequently consumed, particularly by high-income groups. In addition, the urban population is turning to be more sedentary with little physical activity. Consumption of alcohol, providing empty calories, and tobacco use are also common among them. Hence, a prevalence of disorders like obesity, heart disease, hypertension (high blood pressure) diabetes and certain types of cancers is on the increase.

Managerial level employees who are recognized to be spending a more sedentary lifestyle with higher stress conditions (Jayasinghe *et al*., 2015), are seemingly highly susceptible to the above mentioned health risks. Therefore, this study provides valid information about their current macronutrient intakes, in aim to organize daily meal plans in a proper way, as this valuable social segment in the country could prevent nutrition related chronic diseases in future.

Literature Review

According to the information obtained in the recent past (2005/2006), 16.4% of the urban population and 8.7% of the rural population of Sri Lanka are victims of diabetes mellitus. Moreover, 1/5 of adults in the country have either diabetes or pre-diabetes and unfortunately, 1/3 of them remain undiagnosed (Katulanda *et al*., 2008). Many thousands of others too are at the risk of having diabetes mellitus at some stage of the life and are eager of searching ways and means to combat this eminent threat. Risks of coronary thrombosis are on the rise as well, being the major cause of death for adults in the age range of 45-55. (Ediriweera *et al*., 2013).

Ediriweera *et al* (2013) also indicate that obesity in the country is in a rise, especially among the school children and is considered as a disease itself which contributes many other health disorders such as cardiovascular diseases, type 2 diabetes and certain types of cancers as well. Over-nutrition and improper-nutrition resulting above lethal non communicable diseases were identified as the 21st century health crisis in Sri Lanka, not the under-nutrition.

It is estimated that the rate of junk food and fast food consumption in the country is increased by 60 % during 2007 – 2012 (Dept. of census and statistics, 2013). *Junk food* is a pejorative term for food containing "high levels of calories from sugar or fat with little protein, vitamins or minerals". The canned or packaged meat products, which are consumed without any other combination, can be included in this category too (Encyclopedia Britannica, 2006). Most of the food that has been served in modern fast food outlets can be put under the category of Junk Food, but not all the fast foods are 'junk', since there are different food combinations providing a variety of nutrients could be seen occasionally. However, all junk foods and most of the fast foods are

not providing a balanced diet and their continuous consumption may vastly increase the possibility of a person getting chronic diseases. The Private Sector Managerial level employees often tend to consume food products of popular fast food outlets (Jayasinghe *et al*., 2015) and as a result, are not balancing their daily macronutrient intakes.

Methodology

Community Survey

A community study was carried out to identify the portion sizes, varieties of selected foods regularly consumed by employees in the private sector who are positioned in between Junior Executive level and CEO in the hierarchy. The study was included randomly selected 800 private sector managerial level employees in the age range 25 yrs. – 54 yrs., covering all provinces of the country, elected according to the "disproportionate stratified random sampling technique". Individuals were questioned broadly according to a questionnaire structure prepared. The sample population contained. Among the districts, the sample sizes were determined according to their population ratios. As the UK National Nutrition and Dietary Survey (NDNS) collected dietary details from 1724 participants from a population of 60 million (Nelson *et al*., 1997), it was assumed that the sample size of 800 used in the current study is within adequate limits.

Managerial level employees were mainly selected from the private sector in urban areas, aiming to reveal the realistic impact of changing lifestyles in nutrient intakes. The approximate grid made for the sample selection in the survey is indicated in the figure 1. As shown, it has covered more urban areas than rural.

Number of persons interviewed

3 - 6

6 - 15

15 <
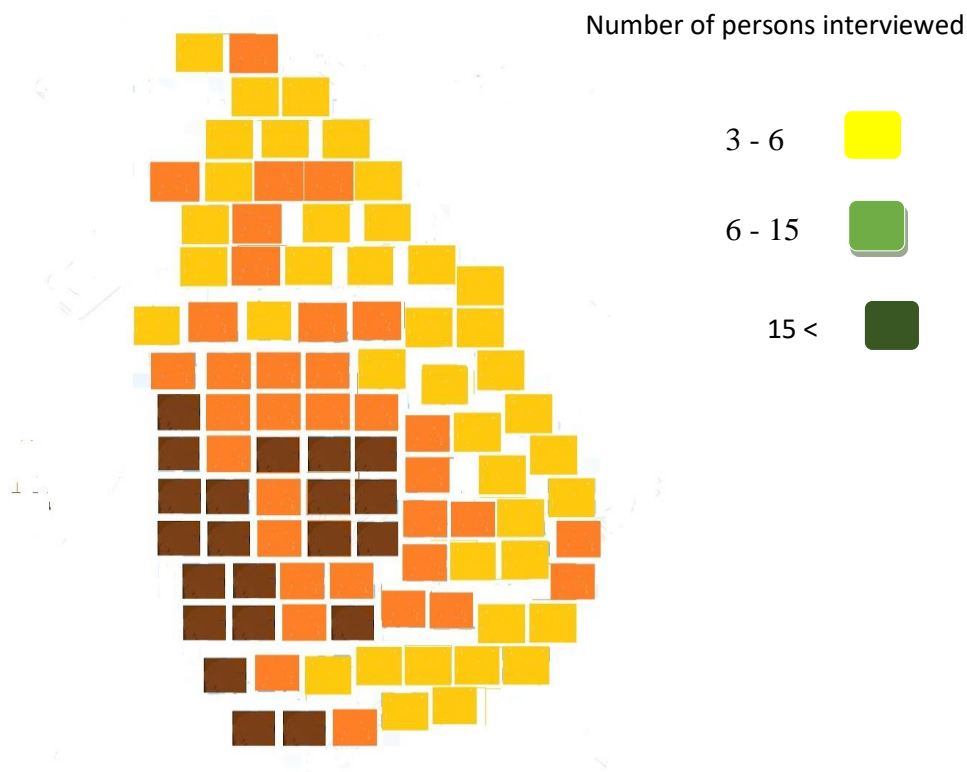
Figure 1: The grid: Sample population of selection

Questionnaire Formation

The major aim in designing the questionnaire was to assess the realistic nutrition intake Managerial level employees working in the private sector. This included sections to put information about the frequently consumed food varieties, their processing /cooking methods and also the portion sizes.

Data collection

The field level implementation was carried out by colleagues volunteered to help as surveyors in this research project. All of them were associated with government Universities island-wide who have completed at least B.Sc. level qualifications. Questionnaires were filled by surveyors while interviewing candidates. Broad explanations were given about how to answer the questions properly. Among the different provinces of the country, numbers of volunteers were selected, considering the relative population sizes of managerial level employees. Not more than one member from a family was interviewed and hence, all the individuals represent different 800 households. Activities undertaken by each surveyor included: conducting interviews and collecting completed

questionnaires. If there were any missing information in questionnaires, relative volunteers were contacted again and relevant information obtained.

Training of Surveyors

An informative practising session was conducted at first focused on field data collection procedures, and management of other aspects of the survey. The training agenda included inputs on the purpose of the study, responsibilities of each member of the survey team. Training in interviewing techniques was carried out through a detailed explanation of the contents of the questionnaire, mock interviews and checking of data to ensure the completeness of the questionnaire. Need to ensure the quality of data collected was emphasized throughout the training including the conduct of quality checks at the field level.

Interviewing at the Organizational / Household Level

Administration of the questionnaires was done by the trained surveyors. The questionnaire included several sections, some of which relate to household demographics, and socioeconomic characteristics. Major questions were designed to thoroughly understand the lifestyle impacts on dietary patterns and the variety of frequently consumed foods cum their regular portion sizes. The 24-hour dietary recall was done for 4 days, but altogether dietary assumptions were report considering a years' time period back. When there were incredible deviants of frequent meal combinations consumed in the entire year rather than the 4 days considered for the recall, those combinations were included for the identified diet lists. The names of respondents and identification data on the organizations and households were kept strictly confidential.

Determination of Proximate Compositions of Macronutrients

Homogeneous mixtures were made using the most frequently consumed meal combinations consumed by individuals. Then nutrient contents of actual portion sizes were calculated. Proximate analysis was done for moisture, digestible carbohydrates, insoluble dietary fibre, soluble dietary fibre, fat, protein, Vitamins and minerals. Obtained values were indicated in a dry weight basis.

Statistical Analysis

The results of the nutrient compositions were analyzed by the two tailed unpaired T-test using Microsoft Excel 2013 at 95% confidence level. Mean percentages of macronutrient contents were calculated with their standard deviation values. Two tailed paired t-test was performed to investigate of any existing significant differences between the Reference Dietary Intake Guideline (RDI) values of nutrients provided by the World Health Organization (WHO) and actually consumed food combinations. Average nutrient contents of test foods identified from each district werecompared

separately with RDI s. The Q-test was performed to identify the existing outliers among the volunteers.

Findings / Discussion

The daily dietary fibre content taken by were significantly ($p<0.05$) lower (Table 1) than the daily requirements and it may result in severe bowel disorders and other non-communicable health disorders if continued in this habit (Mathur *et al*., 2005).

Table 1: Comparison of Macronutrient intakes with WHO Reference levels

Nutrient	WHO RDI (g)	Actual intake (g)	P Value
Digestible Carbohydrates	130	133.1 ± 2.2	0.22
Proteins	56	65.2 ± 1.4	0.03
Dietary Fat	28	45.3 ± 1.7	0.006
Dietary fibre	35	22.3 ± 1.1	0.005

Significantly ($p<0.05$) excessive daily protein intakes by participants was visible (Table 1), where it alarms a severe threat to the physically least active individuals.
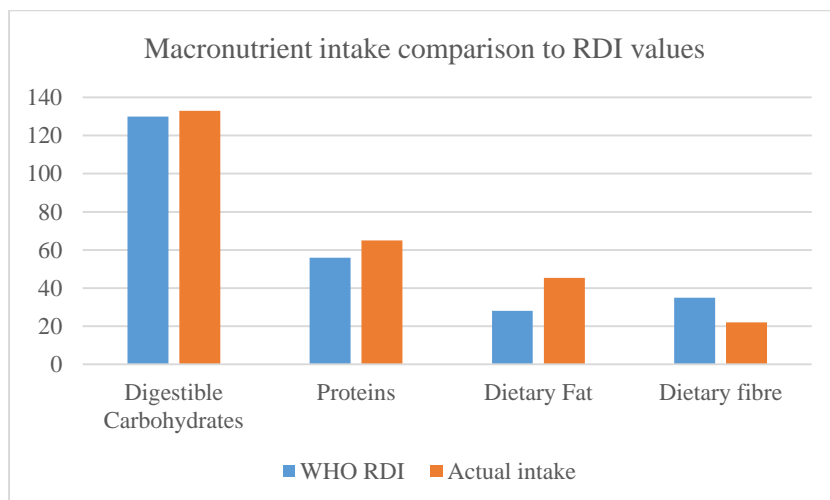

Figure 2: Graphical illustration of macronutrient intake to WHO RDI values

Carbohydrate intakes were found to be higher than the RDI (Figure 2), but the difference was not significant (p>0.05).

Daily fat consumption was significantly high (p<0.05) in managerial level employees (Figure 2). The population sample represented the ones who are mainly working in urban areas, where fast food outlets were common, which can be assumed for one of the main reasons for this occurrence. During the interviews, 71.5 % of them mentioned that due to the mental stress they undergo during the long hours of work, they repel balanced, nourishes diets and go for the 'tasty' fast foods to satisfy their minds. Another main reason was the convenience due to lack of time for food consumption in working days. Overall, 44.1% of participants mentioned the selection of fast food as a matter of convenience

There was another hindered factor revealed during the interviews after questioning the individuals, which revealed that; due to the socio-trend pressure, 36.2% of the individuals, are going for the famous branded fast food outlets located in urban areas frequently.

The major outbreak of with respect to revealed factors of the macronutrient consumption rates was seen regard to dietary fibre, which was significantly low (p<0.05) in daily intakes with a minimal p value (Table 1 and Figure 2). The change of lifestyles was identified as the main reason, which has lead them to consume processed foods and fast food rich in fat, proteins and carbohydrates but lack of fibre.

Another main factor affected was the unawareness of the abundant rich dietary fibre sources which are readily available. Overall, 53.4% were only considering quite a few sources as rich in fibre such as *Lasia spinosa* (Kohila) and *Cartica papaya* (Papaya), not being aware of many other fibre rich sources which are abundant in the local market.

The change of attitudes in the society has changed the food culture in a great deal in urban as well as suburban areas, where valuable natural sources have been replaced by convenient processed foods.

Our observations were supported by previous research findings of Jayewardene *et al* (2012) which showed low mean daily intake of fruits and vegetables among Sri Lankan adults (2.16 portions) compared with the USA (3.0) and France (3.6).
Although we care less about the nutritional and health requirements of the common social segments, they are the ones who are most vulnerable to non-communicable diseases in some part of their life. Therefore, it is necessary to prevent that by

providing them necessary guidelines. When life is normal, people are less concerned about the nutritional needs, and lead into severe diseases with time, without intention.

Conclusion

Most frequently consumed meal combinations by local managerial level employees in the private sector are significantly ($p<0.05$) higher in fat and protein contents than the WHO recommendation levels. Those were significantly lower in dietary fibre contents. This alarms of possible high number of nutrition related chronic disease occurrences among individuals in this particular social segment in future.

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Perception of the implementation of SLFRS as the convergence with International Financial Reporting Standards (IFRS) in Sri Lanka

Wasanthi Madurapperuma[1]

Abstract

The study examines the key actors and their perception of using Sri Lanka Financial Reporting Standards (SLFRS). The focus of this study is mainly on providing evidence of perceptions towards the implementation of SLFRS, the way financial statements are used, what challenges and obstacles are encountered and what are the perceived benefits after the adoption of International Financial Reporting Standards (IFRSs). The study explores the views of internal and external users about the effectiveness of financial reports and examine the actors' experience and interpretation of accounting information and challenges adoption of IFRSs. Empirical evidence has been gathered through interviews with key individuals in the Implementation of SLFRS. Secondary data were obtained from public statements, policies and the drafts and comments. The results found that the use of SLFRS financial information is narrow. Results further showed that Users of SLFRS are facing many obstacles when interpretation of IFRSs mainly due to the lack of advanced technical understanding. There are inconsistencies in the application of IFRSs and the inconsistencies in actors' views about the actual benefits of IFRSs. Findings of this study suggest that CA Sri Lanka should consider the level of technical expertise of diverse profession and simplify the SLFRSs.

Key words: **SLFRS, IFRS, Accounting standards, Challenges, Sri Lanka**

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Introduction

Background

In early 2008, the global capital markets have developed with significant speed throughout the world. This was a crisis that affect the entire international financial system. With this crisis commonly international financial reporting standards have been required. Since then international accounting became one of the major factor for strengthening the transparency of financial institutions; for example, the objectives of the economic recovery plan as "to achieve a single set of high quality global Accounting standards" (Ernst & Young, 2011, p.1). This study focuses on the effects of the adoption of the International Financial Reporting Standards (IFRSs) which has been developed by the International Accounting Standards Board (IASB). With the concept of globalization, the internationalization of financial information is not a new concept. Over the last four decades' attempts have been made to *harmonize* international financial accounting standards, at the global and regional level. The internationalization of financial reporting and implementation of IFRSs is one component of the efficient financial integration. As the accounting harmonization process is still in progress, it must be considered on the basis of its interaction nations' political and economic regime, institutional frameworks, and cultural traditions.

Consequently, there was a widespread attention in international financial reporting. Sunder, 2010; Cascino & Gassen, 2012 focus on whether harmonization of financial reporting globaly has been achieved. Despite the limited evidence about the benefits and beneficiaries of the adoption of IFRSs, the standards are still widely used on global scale. However, more research is

needed to address this issues. Most researchers relating to IFRSs- highlight that financial reporting harmonization is a vital for today's companies. Studies so far relating to the objectives of the IFRSs' conceptual framework rely on the hypothesis that adoption of IFRSs will increase the value of reporting practices (Armstrong *et al*., 2010). However, most studies pay less attention on impact of social, economic, cultural, political and institutional changes when adopting IFRS.

This study first addresses the perspectives of key users on the adoption IFRSs, the benefits and the challenges they encountered during and after the transition to IFRSs (e.g. Pope & McLeay, 2011; Durocher & Gendron, 2011; Brüggemann *et al*., 2013). Extant research relating to the impact of IFRSs offers no conclusive evidence of their usefulness to users of financial reports. There are a limited number of studies exploring users' and other key actor's views on the use and appropriateness of IFRSs in Sri Lanka. This study tries to fill this gap.

Research Issues and Research Questions

The purpose of this study is to identify *whether key local actors postulate that SLFRSs are more beneficial than the SLAS.*

In order to explore this underlying question, it investigates:
1. *'who are key actors' using SLFRS and their perceptions on the use of SLFRSs'*,
2. *'what stimulate the key actors' perceptions on the adoption and implementation of SLFRS*s?' and

3. '*Does their experience match with the statements customized by the CA Sri Lanka, the benefits of SLFRSs*?'

Methodology and Design

This study employ semi-structured and in-depth face-to-face interviews with key users involved in accounting practice in Sri Lanka. Before conducting the actual interviews, a pilot case study was conducted to identify the users of financial information and the ways internal users utilized that information; based on the experience of the pilot study, particular groups were selected to explore their views on the use of IFRSs information in financial statements. The target group was divided into two groups, as internal users and external users.

The selection process for the interviewees was based on the professional qualifications and experience of the IFRS, previous or present contributions or employment in institutions involved with IFRSs-setting processes, academic knowledge. All respondents were experts in their field, and sufficiently well qualified and familiar with the IFRSs and the previous standard. However, technical expertise on the IFRSs was not always a prominent criterion, as even managers that were lacking in-depth technical knowledge made extensive use of IFRSs information. Interviewees were not chosen randomly and were, thus, not representative in statistical terms of a general actors' view.

Initially Contact was recognized via e-mail or telephone, and 90% of positive response were received. Once contact was established with the interviewees, many of them were introduced to me via other individuals based on their acquaintances and social network. This increased the amount and diversity of the interviews and empowered the access of more organizations. Appendix of this paper includes an interviewees list, the dates the interviews were conducted and their length.

Analysis and Discussion

Demographic information

A total of 50 interviewees were contacted for the interview during July to September 2016. However, only 36 interviewees agreed to participate for the interview, representing a response rate of 72%. The majority of the interviewees (74%) are male. 93% of the interviewees are qualified chartered accountants with more than 10 years of experience. Majority of the respondents were totally exposure to private organization which we believe more competitive and challenging environments. Respondents in this study are diverse. 17% of respondents are Accountants/cost accountant/management accountants. 25% of interviewees are Finance managers.

Key Actors who read financial statements

One of the initial interview question were asked related to actors who read financial statements. The study identifies the following are the key readers of financial statements

> *Investors – this is a narrow group as Sri Lankan companies don't have multiple shareholders due the size and lack of developed financial market. They are finance analyist. They extract information from the reports to make recommendations*

> *Creditors – bankers*

> *Government agencies – Tax authorities. Ministry of Finance*

> *External auditors – the big audit firms undertake auditing of the largest companies. Auditors prepare annual reports. External auditor's involves in the preparation of annual reports*

Managers – they are interested in competitor's financial reports

Employees – they seek about the financial viability of the company in order to provide some assurance about their future employment.

Key Actors' Perceptions on the Use of Financial Reporting Information

The study explores the lived-experience of those who apply accounting practices and use of financial statements. In addition to that the study analyses the impact of adoption of SLFRS on their role and decision making. The obstacles the interviewees encountered in the implementation of the new standards, benefits they recognized of adopting of SLFRS will also be discussed.

General Perceptions of Using Financial **Statements**

Before explaining the key users experience with SLFRSs, it is vital to highlight the perceptions on the use of financial reporting. **Interviewees were firstly asked about user's general view of the IFRSs**. Responses were summarized in the table -1.

Table- 1 User's general view of the IFRSs

Responses	SLFRS (%)	SLAS (%)
Comparing to the SLAS with SLFRS, which one is **easier to apply**	46.2	53.8
Comparing to the SLAS with the SLFRS, which one is **more time-consuming**?	80.6	19.4
Comparing to the SLAS with the SLFRS, which one is **more preferable**?	84.6	15.4

Source: Author's survey 2017

In terms of the general perception of the users interviewed, users have a positive stance towards adoption of SLFRS. Majority of users' view that SLFRS are more preferable comparing to SLAS because it is more comprehensive, accurate and less complexity.

Table 2: Motivational Factors affecting SLFRS adoption

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Government policy					
The external environment greatly influenced the adoption of SLFRS.	-	-	7.7	23.1	69.2
CA Sri Lanka /other professional Institutions Introduced as a mandatory requirement	-	15.4	23.1	30.8	30.8
Economic growth in Sri Lanka greatly influenced the adoption of SLFRS.	-	15.4	23.1	53.8	7.7
The legal system greatly influenced the adoption of SLFRS	30.8	38.5	23.1	7.7	-
The previous accounting standards were ineffective	76.9	15.4	7.7	-	-

Source: Author's survey 2017

Interviewees were then explicitly asked about user's motivations for adopting IFRSs. Perceptions were analyzed in light of the national socio-economic, cultural and institutional context that shape financial reporting. Changes in the international financial reporting were formed with the emerging of multinational companies and audit firms and are shaped by t the globalization. As shown in the following table, Key actors support the adaption of SLFRS due to the external environment. SLFRS are institutionally encouraged and promoted by the most economically dominant and powerful sections of the society such as capital providers. Further SLFRS is a mandatory requirement for the Sri Lankan actors.

The rise of IFRSs were associated with the globalization, development of a capital market, the rise of multinational institutions and the internationalisation of

companies' operations. These are the reasons which explicitly expressed for adoption of IFRSs. These reasons are consistent with the arguments that privatization and market competition leads more efficient and equity of resource allocation.

Similarly, modernization is another reason for adopting IFRS. This point was generalized for the use of IFRSs by an interviewee who maintained that:

> *'IFRSs are more appropriate as it contribute to the modernization of a company with globalization.'*

(Manager)

Another interviewee takes a more different view towards the internationalization of financial reporting process.

> *As a multinational company we are required to adopt IFRSs, we cannot ignore it, we make a big effort to understand the standards and advance our technical level and apply them in this particular context...'*

(CEO)

These responses are expressed by a narrow group which has more technical knowledge. They don't represent the wider society. Their attitude is more important to explore as it will determine the future application of IFRSs in Sri Lankan context.

Respondents were asked whether size of the company matter when adopting SLFRS.
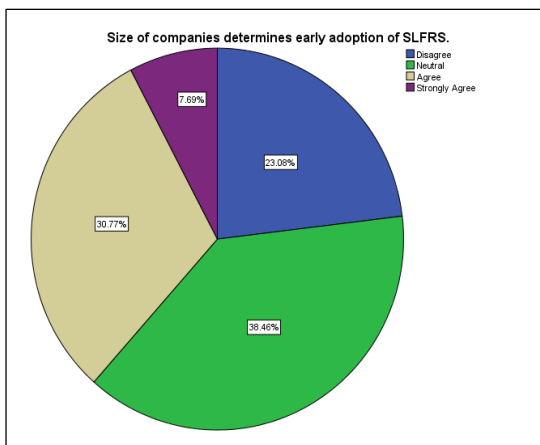
Figure 1: Size of the company and Adoption of SLFRS
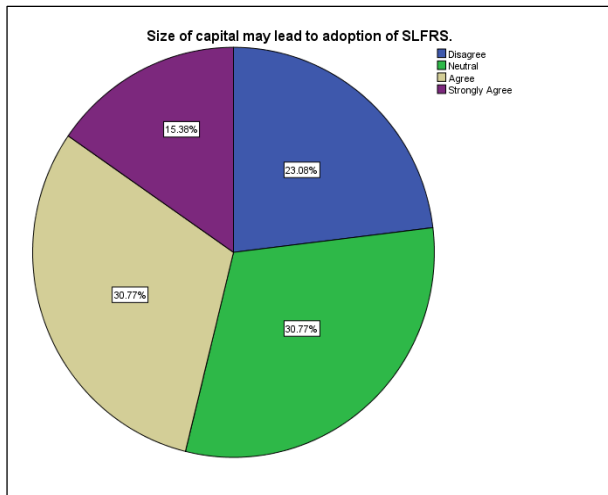
Figure 2: Size of capital and Adoption of SLFRS

As shown in the following figures, respondents argued that SLFRS is less relevant due to smaller of the firm size and its capital structure. For smaller companies, printed accounting results do not show a significant role for operation and managing the business due to their simpler structure. Another reason is that owner managers require accounting information in a timelier manner. They keep basic accounts such as sales, loans, and other liabilities. They keep book keeping rather than financial reporting. Some interviewees' view that they keep accounting records for tax purpose. This view liked to the intervention of the government through taxation.

These views imply that importance of keeping records are more oriented towards satisfaction of regulatory requirements. They are not willing to spend money on supporting facilities, acquiring required skills, using accounting software as they try to save time and effort.

Experiences of Key Actors and the Benefits of SLFRS

Internal users' views of financial statements

Accounting numbers provide company performance and operations are turned into financial information. It provides a framework to make economic decisions and to take action. Use of annual and quarterly financial reports, varies according to size of the company and different user group. big companies tend to have more advanced and computerized accounting information systems to report and extract information for internal use (management accounting) or for external use in the form of annual or quarterly reporting for tax purposes (financial accounting).

Interviewees' perceptions revealed that some companies apply IFRS as a mandatory requirement or voluntary basis. Listed companies use the IFRSs because their transactions are more complex. A manager of a company claimed that they mostly practice *management accounting* information for making decisions on their businesses because management accounting is more useful and applicable; extracted from trial balances and cash flows budgets, for example Managers will collect information about their monthly sales, expenses, payroll cost of raw materials and operational expenses, suppliers and debtor balances. and cost to determine their plans for a company, its pricing or discount strategy, predictable risks and budget according to expected sales and expenses and cash flow forecasts, in general; these are then compared with the actual results as reported in the annual/quarterly financial reports. Actual results of the company are reported in Annual or quarterly financial reports, this information will determine the forecasts of the company in the future, and in turn influence the economic decisions of managers. One Owners and CFOs claim that they examine loans (liabilities), customers, inventory and cash accounts, but tend to focus more on net profit and turnover and (future) cash flows as this will facilitate high borrowings.

For decision making process owners and the managers of companies focus on mainly on management accounting information. However, the image of the company reflects the financial statements and it helped to attracting and finding funding sources from investors and other financial institutions like Banks.

Impact of the IFRSs adoption on internal users and preparers:

According to companies' manager-owners, financial managers and accountants, the adoption of IFRSs has not considerably altered on their decision-making. However, a CFO thought that reporting under IFRSs had improved the way accounting information and it gave a clearer idea about the company's transactions and operations. Another view is that IFRSs provide more options compared to the previous standard.

IFRSs' implementation contribute to the firm a more beneficial' book-keeping, in particular details of economic transactions and information; standards provide a clearer overview of business affairs and it is assumed that Financial accounting increased importance within companies, and for some internal users IFRSs financial reporting requirements have had a positive impact on the self-awareness of their companies' economic position and the organisation of their finance departments. Management accounting practices and techniques did not change significantly after the transition to IFRSs:

> *'The adoption of IFRSs has not changed the routine of the company and management's daily tasks. Management had the same access to necessary information for the administration of the company under both accounting frameworks.*

> *((FM3)*

The preparation of financial reports, according to IFRSs, has also been argued to improve and facilitate companies' communications with credit insurance companies, international partner companies and credit rating agencies. The preparation of IFRSs

financial reports has decreased the workload and extra cost of preparing additional financial reports for this group of users.

Another perception is that IFRSs is more credible because it enhances the legitimacy of companies in the market. Application of IFRSs encouraged the firm for long term growth strategies such as
Establishment of co-operations and strategic alliances.

External User's Perception of Financial Statements

Bank Managers and Officers

Banks are considered one of the main user groups of financial statements. Companies have developed strong links with these financial institutions. The information used by banks in order to make decisions about whether they will provide capital or not, are not based solely on financial information or published financial statements the position of the company in the market, its market share, the management of the company and/or the quality of its products or services are the criteria in which bank is considering. Banks obtain information through their loan officers by observing Companies and their products over time, and by viewing the companies' repayment history and solvency. Information for the latter can be extracted, for example, from the credit and financial transaction information system-agency,

> *'Financial figures are considered important but there is common agreement that the bank managers' personal experience, personal contacts and opinions about a company are more important criteria in determining the banks' loans policy.'*

(Manager)

Loan officers' analyses financial statements and extract financial information from companies' balance sheets or income statements, such as fixed assets, shareholder's equity, turnover, net profits, short-term and long-term liabilities and trade receivables.

This information is imported from specially designed software programmes for credit and loan approvals that provide indicators, financial (profitability/liquidity) ratios and companies' credit rating

> *Bank concern on the information of mainly regarding credit agencies' indicators, since*
> *the smaller the share capital the worst rating it has. Based on the share capital banks will make decisions on the provision of loans.'*

<div align="right">(Manager – Credit)</div>

> *'Apart from the annual and quarterly reports, banks ask for further information,*
> *namely, the most recent and detailed trial balances.'*

<div align="right">*(Manager)*</div>

Managers confirm that bank officers contact businesses personally to seek clarifications about financial statement items; they require information about companies' monthly results;

> *'Bank officers individually get results and figures from the reports and put them in the software system and filter them, and they just get the indicators...'*

<div align="right">(Auditor)</div>

This comment suggests that financial institutions do not always use rational criteria when
Providing loans.

Impact of IfRSS' Adoption on Bank Managers and Officers:

According to bank managers, there is no difference in the information that banks have acquired before and after the introduction of IFRSs because bank focus solely on the information provided by companies' financial statements. However, such claims

appear to ignore the challenges and the impact of IFRSs on accounting methods and reported figures.

> *'we do not rely solely on the balance sheets, we always require the accounts'*
> *trial balances, where the analysis of the account is complete.*
>
> *(Bank Manager)*

IFRSs adoption means that companies are required to prepare more reports that were not mandatory according to previous standard. Although internal users emphasise the legitimacy and credibility attached to the IFRSs by the market, lenders view that the type of accounting standards does not have a significant influence on the perceived credibility of a company. The application of IFRSs does not appear to affect banks' loan policies. In some cases, the transition to IFRSs has made the work of bank officers more difficult, as they are not adequately trained or familiar with IFRSs and have difficulties in identifying the requisite information. It has become more burdensome to identify and find information disclosed in notes in the annual reports.

Competitors

Competitors are the group of users. To explore how competitors, use financial information, finance directors were asked about whether they refer competitor's financial statements. Large companies refer the published financial statements of their main competitors and refer their turnover, profitability and investment. Company managers said they view those information and refer how they deals with financial reporting issues

Impact of IFRS on Competitors

Some companies remain reluctant to disclose excessive information as it leads to a competitive disadvantage. Competitors gain detailed insights into managerial practices and profitability. According to financial manager, companies in general respond to their competitors by disclosing more information. The ability to interpret and analyze such information is a key issue

Financial Analyst

Financial analyst undertakes research to obtain information. It will help them to assess the value of the company whether company should buy sell or hold securities. Based on this, financial analyst gathers relevant information which includes the companies published financial statements.

> *Financial analyst use cash flow statements to evaluate the company*
>
> *(FA1)*

> *Financial analyst role is to predict company future performance. Therefore, they refer the financial statement. Further they are looking at companies that don't have loans and have high liquidity*
>
> *(FA2)*

> *For analysis of cash flow it is important the value of the assets. Information regarding business plan can be obtained from the balance sheet*
>
> *(FA1)*

> *Financial analyst forecast the price, targets and investment. For these valuations financial statements information use the inputs example discounted cash flow analysis*
>
> *(FA3)*

> *80 percent of the information are extracted from financial statements for preparing capital financial analysis*
>
> *(FA1)*

> *We are more concern about the profitability of the company. Bu the scope of the company is more important in accessing the value of the company*
>
> *(FA2)*

> *We don't concern in depth of financial statement we pay much attention about the company's investment plan*
>
> *(FA4)*

Impact of IFRS Adoption for Financial Analyst

Impact of the IFRS vary. IFRS are positively impact on investors. However, majority of the investors have lack knowledge of interpreting the financial statements

> *They are not in a position to understate the financial statements especially IFRS*
>
> *(Auditor 1)*

> *It is difficult to understand how they presented and explained disclosures and figures*
>
> *(FA2)*

> *It is considered that fair value is relevant part for investors' decision making. However, less clear and understandable were the difficulty measuring the fair value*
>
> *(FA1)*

> *Some investors perceived that SLFRS statements provide information more detailed*
>
> *(FA3)*

> *SLFRS statement for example cash flow statements make the job easier and clearer.*
>
> *(FA1)*

Conclusion and Policy Implications

Generally Local actors and preparers believe that SLFRS can offer information of high relevance and comparability characteristics than the SLAS. However, the perception of diverse actors is different. The view of bank managers was mixed. Major challenges for bank managers are lack of training and technical knowledge about SLFRS. Their Information sources are based on personal relationships and trust rather than financial statements. The view of financial analyst regarding SLFRS is positive. They are the main beneficiary of SLFRS adoption and they are main user

group. They use financial information for decision making. However, it was mentioned that Information overload, interpretation issues of SLFRS have an adverse effect on the efficient use of financial information. Users generally commented that they use very specific accounting information in their decision making process. For decision making, personal relationships, economic factors and other sources of information are more important than accounting information. SLFRS is less relevant due to smaller the size of the firms and capital structure of the firms. According to the views of the interviewees comparability between the financial results of financial statements should be based on institutional environment and the nature of companies. There is still a lack of knowledge and understanding of the IFRSs and the ways in which it can be implemented affects countries' compliance with SLFRSs. The findings suggest that CA Sri Lanka needs to consider the level of technical expertise within the profession and should work to simplify the SLFRSs.

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Factors that Motivate Learners: A Study among Engineering and Management Undergraduate Students in Sri Lanka

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Abstract

The number of private and public educational institutes in Sri Lanka has multiplied in recent years with an increase in academic courses and degrees aimed at adults and young persons. Adults over thirties have enrolled in increasing numbers in these higher education institutes. In order to serve learners, higher education institutes must understand their unique needs and motivations for further learning which may be different in different streams of studies and differences in age groups. Such an understanding can facilitate to identify the appropriate adjustment to administrative procedures, learning environment and learning process and course design. However, the factors that motivate students to seek education have not been researched in Sri Lanka to an adequate level. This creates an empirical issue which obstructs the efficient delivery of courses intended especially for adult persons. This research aims to identify the differences in motivation to engage in higher education between adult and young learners and management and engineering streams through a study of public and private universities and institutes in Sri Lanka. One Public Sector University and three private sector institutes were selected for the study. A sample of 212 students who are following undergraduate degree programs in engineering and management streams were analyzed. The six motivational factors identified in past studies and the Education Participation Scale (EPS) were used in the self-administered questionnaire. The data was analyzed using a series of t-tests. This study empirically established that there is a significant difference motivation factors between two groups. Management stream students scored higher on professional advancement and engineering students scored higher on cognitive interest. Adult students scored higher in professional advancement and young students scored high on external expectations. These results have practical implications for administrators of education institutes who are seeking to improve ways to serve adult students. It should be taken into consideration when marketing, design and implementation of academic programs.

Key words – Adult learners, Higher Education, Education Participation Scale, Cognitive interest

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Introduction

Researchers continue in efforts to understand the decisions of adult learners to involve in learning activities and search for factors that influence their decision to participate in higher education (Taylor, 2001). Previous research on undergraduate education has been predominantly based on traditional young students of age range between 18 years to 25 years (Kasworm, 1990). Past research often represented undergraduates as students who are studying on-campus, unemployed, lacking other commitments such as family, devoid of financial concerns because they are dependent on parents and solely focused on academic activities because his or her academic achievements will mainly decide his career and life goals. It must also be noted that choice of an adult to continue higher education is more likely to be voluntary while young traditional students are more likely to be compelled by their parents or guardians (Nason, 1998).

However, a contemporary undergraduate composition in many programs especially in external degree programs of public universities and part-time programs in private institutes differ a lot to traditional age range (Chickering & Associates, 1981). With the proliferation of private higher education institutes targeting employed persons explicitly, the demographic change in undergraduates have come to a stage that in some undergraduate courses the adults make up more than 70% of the learners. The 18-25-year-old group who constituted the majority of the higher education admission group in Japan diminished dramatically from 2 million in 1992 to 1.2 million by 2009 (Nguyen, Yoshinari & Shigeji, 2009).

As per Ogawa (2002) re-entry of women learners, re-entry of employed persons who felt the career plateauing effect and entrepreneurs who wish to increase their knowledge base for further business growth are some important participants in adults learning category which seem to have different motivations to engage in further learning. As part of this process of expansion and heterogenization, new groups of students who were traditionally excluded from or underrepresented in higher education, have come to participate in higher education in increasing numbers (Manyeki, 2013). While adult learners increase the richness of classroom discussions as they share their experience with the class, research indicates that they also have low participation in co-curriculum or extracurricular activities.

There is no consensus on a definition of adult learner in undergraduate studies. Kasworm (1990) adopts the definition of those who are over 25 years old as adult learners. Johnstone and Rivera (1965), defined adults as persons twenty-one years or older, married, or head of a household. However, a majority of researchers use the threshold of 30 years to distinct the two categories. Those enter undergraduate education after they are 30 years old are more likely to be experienced and are

expected to do better than young students in examinations. However, research indicates that age or experience does not predict the undergraduate level performance but their school performance does have a correlation with the results (Fredrick, Mishler & Hogan, 1984). Adult students perform well in verbal examinations such as viva but poorer in mathematical problems (Fincher and Lunneborg, 1990). Few studies have found a negative co-relationship between academic performance and age and this was attributed to a decrease in metal agility and decrements of cognitive functioning with age (Lunneborg, Olch & deWolf, 1974). However recent research implies that through increased involvement in educative activities, the adult learners were able to perform equally to young learners in undergraduate programs.

Much of the past research on adult learning confirms that it contributes to economic benefits for the learners as their career prospects grow (Feinstein & Hammond, 2004). However, recent research indicates that adult learners also gain health benefits and social capital benefits. Social capital is defined as "naturally occurring relationships to promote or aid the development of valued skills or characteristics" (Loury as cited in Bosma et al., 2000). Feinstein & Hammond (2004) found that adult learning expanded their relationships, networks and social cohesion.

Adult education can be used to restructure the skill profile of employees with the dynamic technological and business environmental changes and shifts in labor market (Manyeki, 2013). For example, those who gained their management education about two to three decades back may not understand that common and control type of management style is not efficient in contemporary dynamic environment. Such attitude and skill changes can be developed through formal adult education. On the other hand, education is an avenue to achieve personal development and educated society is necessary for building of the good society (Gustavsson, 2002). If adult education is this important, it is necessary that we understand the motivations for higher education among adults to bring them and sustain them in the higher education system. The perception of education as a life-long process has made adult education a major policy from beginning of the 1980s in many developed countries (Anderson & Darkenwald, 1979).

Many universities and higher educational institutes have struggled to adapt to this changing student demographic profile in the courses. The academic institutes first need to understand the adult community motivations for education. Secondly it must also understand the current requirements of the labor market. Thirdly, those who deliver the courses (i.e. lecturers) must understand how to organize the learning experience, strategies, methods of instruction and assessments for the adult learner. By aligning these motivational factors and labor market requirements and designing

the programs that cater to these factors, educational institutes will allow the adult learner to reap maximum benefits from their endeavor in higher education.

Past research indicates that motives of adult learners to engage in higher education are numerous (Ron & Zemke, 1984). In a recent study Leaper, Farkas and Brown (2012) indicted that there are motivational differences for education among gender groups as well. It is not rational to expect that these motivations to engage in education are global factors. Instead they are more likely to be affected by cultural and social factors. Some cultures value education for economic returns while some cultures value education for social prestige. Professional advancement in some countries or cultures are based more on paper qualifications while in others it is more on work performance. Hence it is imperative to understand the adult learning motivation factors in Sri Lanka, if we are to design an effective learning system.

Literature Review

Houle (1961), a pioneer in adult education, determined there was significant evidence to believe adult learners could be loosely associated with one of three broad motivational orientations. Some adults are goal-oriented (they have an objective), some learning-oriented (they want to learn for the sake of learning), and some activity-oriented (they want to be around people). Boshier conducted studies that analyzed reasons for participation in adult education based on Houle's three categories (Boshier, 1971, 1976, Boshier & Collins, 1985) and found Houle's typology to be more complicated than originally presented.

Long (1987) reviewed participation in adult education and focused on two areas: trends in educational participation, and the variables often used in participation research. Most of the literature reviewed by Long (1987) examined participation rates in relation to demographic variable such as age, gender, education level, and income. As per work of Malone (2014), there are unique characteristics of adult learners. Adult learners see themselves as independent and self-directed; they like to have control over and be responsible for their own learning. Also Adults are more intrinsically motivated by their needs, interests and desires to learn (Malone, 2014).

Research on motives for participation in adult education tended to center around three groups of theory: decision models, life cycle theory, and motivational orientations (Courtney, 1992). Decision models are those that identify a sequence of decisions that eventually lead to participation. Life cycle theory attempts to correlate participation in adult education with the developmental stages one might go through in life and with the assumptions of andragogy. During transitional phases, learning needs emerge to cope with life's changes. Motivational orientations, traditionally

based on Houle's typology, focus on temperament, personality, and the origins of the learning need.

Henry and Basile (1994) stated that in order to meet public demand and design the academic programs understanding motivation orientations are of key importance. On the same note, Fujita-Stark (1996) stated that motivation of learners varied among different streams such as management, engineering and arts.

Previous studies have developed and validated measurement scales for motivational orientation of students in academic pursuance (Gordon, Olson & Hamsher, 1993). Morstain & Smart, (1974) used Education Participation Scale to measure motivation orientation of younger students and women students. Motivation orientation was defined as the student's reasons for participation in an academic course in this context. They found that young students are motivated by social relationships whereas women students are motivated by cognitive interest.

From the empirical background and literature review, the following research questions are formulated.

1. Is there a significant difference in motivational orientations between adult students and young students engaged in undergraduate education in Sri Lanka?

2. Is there a significant difference in motivational orientations between management stream students and engineering stream students engaged in undergraduate education in Sri Lanka?

Measures

In both the teaching and business context, a distinction can be made between intrinsic motivation (behaviour for its own sake) and extrinsic motivation (behaviour as a means to some external reward) Strongman (2017). Boshier (1971) states that a participant in adult programs are goal oriented and are motivated either by external or internal influences. His approach and the Education Participation Scale (EPS) developed by Boshier (1971) has been used successfully in much past research to analyze motivation of adult learners (Wolfgang & Dowling, 1981; Reid, 1999; Morstain & Smart, 1974). The original EPS consists of 48 items which the learner indicates the reason for participation in a Likert scale of 9 items. Number 1 indicates very little influence to participate and number 9 includes very high influence to participate. This research used EPS with minor modifications to suit the Sri Lankan context following past scholars and 36 items were included in the final scale to cover 6 motivation factors (Reid, 1999). The six factors were social relationships, external expectations, social welfare, professional advancement, escape/stimulation and cognitive interest.

Age was measured as a categorical variable as adult learners and young learners where an adult learner is defined as an undergraduate course participant of 30 years or above. Further, the stream of the study was also categorized as engineering or management.

Sample

The EPS was emailed to three hundred and eighty randomly selected undergraduates in one public university and three private higher education institutes with the clarification of the study objectives and the scanned copy of permission from the relevant institute. The sample was stratified to represent adult and young students. The sample was limited to students who are pursuing engineering or management degree programs. These programs were selected because they contained the largest number of students in these five institutes and contained sufficient adult students. The response rate was around 70%.

Results

Reliability Analysis of the Scales

Internal consistency describes the extent to which all the items in a test measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the test. Cortina (1993) stated that Coefficient alpha (Cronbach, 1951) is the most important and universal statistics in research involving measurement of internal consistency. Lance, Butts and Michels (2006) disagree to the widely accepted cut off threshold of 0.7 of Cronbach alpha arguing that Nunnally (1978) stated that minimum level of 0.7 only if "one wants to save time and effort in a new area of research". According to Lance, Butts and Michels (2006), for basic rigorous research, it should be above 0.8. Reliability of the construct was confirmed as all Crobanch's alpha values exceeded the threshold value of 0.7 for all construct items.

EFA for the instrument

For this research, an EFA procedure was used for data purification as recommended by Churchil (1979). EFA stipulates procedures for determining an appropriate number of factors and the pattern of factor loadings primarily from the data. No restrictions are imposed on the data in devising the underlying factors in EFA. EFA is data-driven in contrast to theory-driven CFA. The main objective of EFA is to identify underlying common factors and assess whether they match the theoretical underpinnings.

The specification for EFA procedure involved that number of factors extracted included eigenvalues greater than 1 (latent root criteria). Unrotated and rotated factor matrices were computed and factors loadings were interpreted (Hair et al., 2010). Principal Components Analysis (PCA) was undertaken with Varimax (orthogonal) rotation which was employed for interpretation of the factor matrices under investigation (Hair et al., 2010; Nunnally & Bernstein, 1994). Orthogonal rotation method is the most commonly used rotational method (Beaumont, 2012).

Data Analysis

After collecting the data, the below results have been extracted as in table 01, 02, 03 and 04. The analysis derived the results for adults and young students in terms of stream and age groups.

Table 1- Difference between Streams

Student Group	Number of Observations	Social Relationships				External Expectations				Social Welfare			
		Mean	SD	t-stat	p	Mean	SD	t-stat	p	Mean	SD	t-stat	p
Engineering	100	2.75	1.2	0.75	0.46	3.15	1.3	0.15	0.9	3.15	1.3	0.14	0.8
Management	112	2.57	1.2			3.11	1.3			3.24	1.2		

Table 2 – Difference between Streams

Student Group	Number of Observations	Professional Advancement				Escape/Stimulation				Cognitive Interest			
		Mean	SD	t-stat	p	Mean	SD	t-stat	p	Mean	SD	t-stat	p
Engineering	100	3.23	1.2	4.65	0	2.75	1.2	0.14	0.86	3.8	0.8	3.69	0
Management	112	4.19	0.9			2.73	1.2			3.11	1.1		

Table 3 – Difference between Age Groups

Student Group	Number of Observations	Social Relationships				External Expectations				Social Welfare			
		Mean	SD	t-stat	p	Mean	SD	t-stat	p	Mean	SD	t-stat	p
Adults	72	3.25	1	0.85	0.76	3.62	0.9	2.43	0.02	3.08	1.3	-0.21	0.83
Young	140	3.27	1			4.15	1.3			3.14	1.3		

Table 4 – Difference between Age Groups

Student Group	Number of Observations	Professional Advancement				Escape/Stimulation				Cognitive Interest			
		Mean	SD	t-stat	p	Mean	SD	t-stat	p	Mean	SD	t-stat	p
Adults	72	4.15	0.9	3.16	0	2.72	1.1	0.14	0.9	2.89	1.2	0.797	0.48
Young	140	3.48	1.2			2.73	1.2			2.57	1.1		

Results and Discussion

In the table 01 and 02, the stream of study (Engineering stream and Management stream) was considered as a dichotomous variable. Engineering students scored significantly higher in cognitive interest factor ($p<0.05$) than management students. This shows that engineering students have an internal drive for knowledge that set them apart from management students. In addition, Management students scored significantly higher in professional advancement factor ($p<0.05$) than engineering students. Given that management is nowadays considered as an essential competency and knowledge to move up in the career ladder, this result is not a surprise. The management stream composed of a more diverse set of students including those who did commerce, mathematics and bio-science in advanced level studies and also those who are engaged in diverse areas of employment compared to more homogenous engineering student set. There were no significant differences between all other motivational factors between streams. It could also be noted that social relationships and escape/stimulation factors had a much lower mean score for both streams indicating that they are not having a major influence in the selection of a further or parallel study in these two streams in Sri Lanka.

In table 03 and 04, the age (adult students and young students) was considered as a dichotomous variable. Adult students scored significantly higher in professional advancement factor ($p<0.05$) than young students. Moreover, young students scored significantly higher in external expectations factor ($p<0.05$) than adult students. This could imply that adult students seek educational advancement to support their career goals more than young students. Also, young students are more likely to be pressurized by their close relatives or peers/employers for education (Knowles, 1990). They mainly want to fulfill their professional obligation and get a qualification acceptable for a future job opportunity.

These results reveal that when planning curriculum and delivering the curriculum, the universities need to focus on these differences. Engineering curriculums need to be designed and delivered in such a way that provoke their internal cognitive desires, more challenging and practical manner (Brinkerhoff and Gill, 1994). On the other hand, management curriculums always need to be updated with feedback of external practitioners and more focused in continuous and professional advancement with contemporary knowledge. In designing the promotion campaigns for the degree programs, the institutions need to focus on these differences to attract the maximum number of students for their programs.

Similar results, as well as similar research designs, were reported in past studies. Business degree pursuers are more strongly influenced by the motive to achieve professional advancement than the motive to acquire knowledge. The findings of Buchanan, Kim and Basham (2007) indicate that careerism and educational motives for business master's students are related to recognition of job alternatives that are an improvement over the current job being held. Social workers' organizational mobility perceptions were influenced by careerism and a desire to gain knowledge, and less influenced by professional advancement motives. Interestingly, the results show that social work graduate students were more careerist than business degree pursuers.

A multi-year study by Epstein, Clinton, Gabrovska and Petrenko (2013) investigates student motivation at the beginning of an MBA program, and again at the end of the program. The study attempts to show that when students enter the program, they are primarily motivated by external factors (e.g., hoping for a promotion, hoping for a raise, hoping to obtain better employment than they currently hold, etc.). Further, the authors show how internal motivation (e.g., need for affiliation, need for achievement, self-actualization, etc.) increases by the end of the program. Similarly motivational differences were found in groups of technical students (Technical colleges) and University students (Bennet, 2004)

Conclusion

This research analyzed the influence of age of students and stream of students on the motivation for education. The six motivational factors identified in past studies and the Education Participation Scale (EPS) were used. It revealed that there is a difference in motivation within these groups. The outcome of this research would give valuable feedback to both private and public universities and higher education institutes in planning and marketing their programs.

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The Role of Human Resource Information Systems in Human Resource Training and Development in Private Sector Organizations in Sri Lanka

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Abstract

Human Resource Information Systems (HRIS) has become one of the most vital information systems in the market. This study focuses to examine the functionality and contribution of HRIS in HR training and development via HRIS training & development subsystems as perceived by senior HR executives in Sri Lankan private sector organisations.

A pilot study was carried out to identify the problem using structured interviews with Heads of HR of three selected private companies. A structured questionnaire was used to collect data from senior HR executives of selected private sector organisations belonging to the Financial, Manufacturing and Service sectors in Sri Lanka. Answers received from 89 respondents were analysed. The overall response rate was 48 percent. The deductive mode of reasoning, cross-sectional study and quantitative techniques were selected as research methods. Spearman's correlation used to measure the strength and direction of association variables.

The results of the survey showed that the most frequently accepted HRIS feature is training needs analysis (TNA). Most Sri Lankan private sector organisations perceived the contribution to the efficiency of HR training and development through HRIS TNA, HRIS training program evaluation and HRIS succession planning, as the greatest contribution of HRIS. This study shows that HRIS needs to offer more intelligent capabilities to increase the effectiveness of HR training and development. HRIS vendors need to win the trust of HR professionals through enriching features and increasing the awareness and usage of HRIS in HR training and development, especially its effectiveness.

Key words

Human Resource Information Systems, Human Resource Planning, Succession Planning, Training Needs Analysis

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Introduction

Human Resource Information System (HRIS) is one of the most important Management Information Systems, which contributes to human resource administration functions of an organisation. HRIS, aptly described by Noe, Hollenbeck, and Gerhard (2007), as a computer system used to acquire, store, manipulate, analyse, retrieve, and distribute information related to human resources. Modern HRIS needs to help organisations by automating most of the HR planning functions including HR training and development. HRIS becomes an important strategic tool since it collects, manages and reports information for decision-making. Fully integrated organisational HRIS ought to interface with other systems enabling and enhancing the communication between departments such as payroll system with accounting system. Since HRIS deals with employees' personal data, which are sensitive, it should ensure data security while transferring information from one place to another. HRIS should be able to enhance communication between employers and employees and build strong relationship with unions and management committees. HRIS should be capable of identifying trends, evaluating and managing costs, comparing the organisation with other competitive organisations and issue relevant reports. HRIS software can be used as web application by subscribing to scalable cloud service or can be used as console system application (Gautam, 2017). New HRIS trends seem to build important effect on HR training & development embedding new technology with organisational objectives and goals. Enterprise Resource Planning System (ERP systems), when linked with the HRIS subsystem, provides a competitive advantage to organisations over their competitors.

Employees gain training and development opportunities whenever HR planning department decides to redesign current jobs for more rewards. Tao, Yu-Hui, Yeh, and Sheng-I (2006) state that training, especially, is an important strategic practice in the development of internal competence. HRIS facilitates for training needs analysis (TNA) to decide what training and development program might best meet the need, saving time and cost. TNA enables individuals to learn at their own level, as well as learning only what they need to know in order to benefit from their work (Eighteen, 1999). TNA is an excellent HR tool, which assists the organisation to maintain a training record for each delegate, showing skill levels before and after the training. Succession planning is another part of training and development, used to identify and track high-potential employees already working in the organisation in order to fill the top management positions whenever they become vacant. Organisations define strategies to accomplish succession-planning objectives. HRIS skill inventory and TNA facilitate succession planning as well.

HRIS is one of the systems that organisations invest and implement according to their corporate, HR and IS/IT strategies. HRIS is developed to assist the organisational HR planning. HRIS can mainly provide information to the organisation in order to train and develop the employees to execute the HR plan. However, few organisations use HRIS for HR training and development. Most organisations use HRIS to generate a limited number of traditional reports of HR administration work such as online leave management, salary calculations, attendance recording, etc., rather than trying to take the essence of available HRIS features. In the Sri Lankan context, proper HRIS studies do not exist. Therefore, a pilot study was carried out as an initial information generating tool.

Research problem

Chief Officer HR of one of the service sector organisations said that they initially used HRIS for administrative activities such as salary calculations and attendance recordings successfully. According to him, they did not use HRIS as a management tool which contributes to HR training and development related activities such as succession planning, training need analysis, and training program evaluation. Although they have identified the inadequacy of the existing system, the company cannot afford a new system right now since they have already spent a considerable amount on HRIS. Therefore, HRIS does not play a significant role to train and develop employees fairly, equally and transparently in the said organisation.

According to Head – Group HR of one of the manufacturing organisation, HRIS is used to reduce the cost and increase the productivity by compensating labour shortages which have led to flatter their company with wider spans of supervision. He feels that HRIS fairly supported HR administrative functions as well as HR planning functions. However, according to him, they used traditional training and development methods rather than training need analysis facilities of HRIS when training employees due to lack of support for the current system. They plan to upgrade the current system in order to facilitate training and development as well.

Senior Executive – HR of one of the finance organisations, said that they use HRIS for HR planning functions but not for identifying the training needs of the organisation due to lack of support for the existing system.

According to annual reports, organisations that are smart enough to set overall information system policies in advance seem to acquire HRIS to fulfil their HR administrative functions as well as human resources planning functions. Though the existing HRIS system supports HR planning functionalities of the organisations, some organisations do not fully utilise them for training and development due to the

dependence on traditional methods or due to unawareness. Others struggle to align their existing HRIS system facilities with the HR planning functionalities owing to lack of support from their existing system or lack of investments to upgrade the system with required features.

The pilot study findings lead to further research to find whether organisations are fully aware of the administrative functionality of HRIS and make use of them and make optimum use of HRIS functions in support of HR training and development or not.

HR training and development was selected as the focus of this study since it is likely to be supported by HRIS tools; TNA, training evaluation and succession planning. This study would determine the contribution of training and development to workforce planning by developing a conceptual framework and testing it using hypotheses.

Significance of the study

In the Sri Lankan context, HRIS is still in its initial stages since a lot of forming and reforming is going on in the industry. There is a vast knowledge gap within Sri Lankan research studies as to how HRIS could contribute to HR training and development. Therefore, finding would be very important, and would contribute to the body of knowledge.

HR training and development is one of the most crucial aspects of an organisation, which can be facilitated by HRIS functionalities. A number of vendors supply HRIS software to the market under different names and prices. Organisations spend substantial amounts to acquire HRIS software. After a while, they suffer when they try to align the available HRIS functionalities with HR training and development. Sometimes though organisational HRIS support for HR training and development features, organisations do not use all the functionalities due to poor response from the users. It is time to conduct a proper study to find out how HRIS could contribute to HR training and development other than as a means of facilitating administrative matters. This study would not only fill the existing knowledge gap in research studies, it would also encourage organisations to review their IS policies and HRIS utilisation in HR training and development.

Through this study, HRIS vendors would also be able to re-evaluate the HR training and development functionalities of HRIS to minimise deficiencies and enhance its services. Furthermore, vendors can decide as to whether they have instructed their

clients to make optimum use of HR training and development through the opinion of the senior HR executives.

Research question

- How effectively and efficiently does the training and development subsystem of HRIS contribute to workforce planning of an organisation?

Research objectives

- To investigate the contribution of HRIS training and development subsystem to workforce planning of an organization.

Literature Review

Information System/Information Technology is an interesting subject area for many researchers in this information age. HRIS is a MIS, which is employed by many organisations spending substantial amounts. Many studies have discussed HRIS benefits, obstacles and usage on various occasions. HR planning is another research area that has been discussed continuously for many years. However, there are not many studies based on the contribution of HRIS in HR training and development in the Sri Lankan context. This literature survey attempts to gather the existing knowledge based on HRIS training and development.

HRIS was not only designed to automate HR management (HRM) activities to gain administrative advantages; rather, it could also be used for decision making to provide strategic advantages for companies (Ngai and Wat, 2006). The key element in the support HRIS provides for the company's HR strategy is the availability of information as input for HR-relating decision-making processes (Beulen, 2009). The evidence showed that there was more use of HRIS for basic information, but much less on decision support functions.

Human resource planning, recruiting, and training are less frequent users within personnel perhaps reflecting greater use of the system for routine reporting than for decision support (DeSanctis, 1986). Ngai and Wat (2006) stated that HRIS usage was decided by the HR strategy of an organisation and further described a matching process between different strategies and different system usage. If the strategy were to reduce cost, the system would have been based on administration purposes.

Training and Development

Training and development could no longer be based on the goodwill of the senior employee to train his/her subordinates (Glaveli and Kufidu, 2005). The training and development intervention needed to be carefully designed and implemented and linked to organisational goals and strategy, for the training investment to pay-off (Glaveli and Kufidu). Glaveli and Kufidu said that the training and development function is essential for changing behaviour and culture and reinforcing the new behaviour and culture. Training was the tool for enhancing the knowledge of employees on the new employee role and expectations and the services and products offered through induction courses. Training was also a tool for improving the skills in need (sales skills, communication skills, service skills, etc.), the productivity and effectiveness of employees (Glaveli and Kufidu). There are differences between training and development practices relative to organisation size, and small firms face unique barriers, including access to, time for, and the cost of training (Sambrook, 2005).

According to Glaveli and Kufidu (2005), the training approach is continuous, systematic and strategy oriented. The training process consists of four phases.

1. Training needs analysis (TNA)
2. The design phase, which involves the creation of the training activity. During this phase, formulates and implements a detailed training plan, referring to: training objectives and content, staff subject to training, involved resources, methodological options, training delivery channels-media, centralisation/decentralisation of the activity, specific objectives and outcomes etc.
3. The implementation phase, which refers to the understanding of the participants' background and characteristics, the close observation of the instructor's behaviour, measurement of participants' perception level and participants' satisfaction.
4. The training evaluation. It is necessary to ensure that the training activity is progressing towards the intended objectives. The evaluation phase measures mainly participants' satisfaction with the training program.

Training resources, like other resources in the organization, are limited. To utilize training resources to the best advantage, companies must put a fair amount of effort in training needs assessment (Tao et al., 2006). Tao et al. defined need as a gap between a current set of circumstances and some changed or desirable set of circumstances, and needs assessment as the process of measuring (as scientifically as possible) or appraising that gap. The word "circumstance" in this definition can be

substituted with words such as "proficiency" (knowledge, skills, and attitudes), "performance" or "situation".

Tao et al. (2006) advocated that though companies may adopt various training models or processes, they all need to establish a training information system as a reference for determining an effective training plan. HRIS consists of one of the automated training needs assessment tools.

Tao et al. (2006) have presented an integrated framework of a web-based training needs assessment system to effectively and efficiently assist organisations in their pursuit of competitive core competencies. It shows that HRD professionals do recognise the power of web technology in helping them become more efficient. Though Tao et al. presented a framework of a web-based training needs assessment system, they have not studied whether the existing HRIS TNA support for HR planning which is going to address by this research study.

Training and development needs assessment model

The Al-Khayyat (1998) model (Figure 1) has discussed the main elements of T&D information system. The limitation of this model is that it has not depicted how the new technology contributes to T&D. The model could have been perfect if it showed the effect that comes from organisational HRIS system to enhance the each steps of Al-Khayyat's Training and Development Needs Assessment Model.
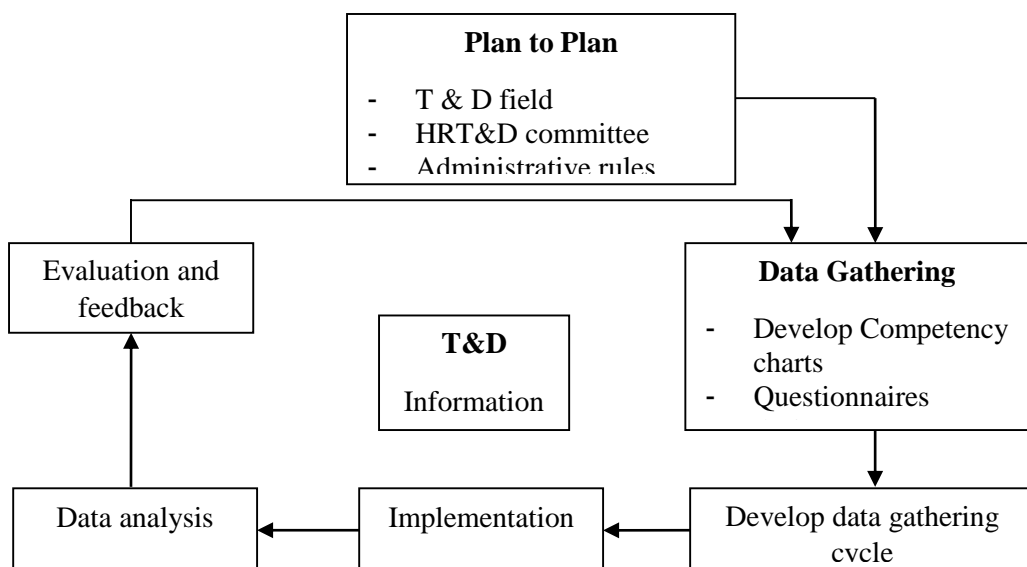

Figure 1: Training and Development Needs Assessment model

Source: Al-Khayyat (1998)

However, Al-Khayyat (1998) model has identified the evaluation and feedback element as one of the most important elements in training and development, which was studied in detail by Yadapadithaya in 2001. According to Yadapadithaya (2001), evaluation of training is normally used in a broad sense to mean any attempt to obtain information (feedback) on the effects of a training program and to assess the value of the training in the light of that information. Furthermore, Yadapadithaya argued that though some experts on the evaluation of training make a distinction between validation (the assessment of whether the training has achieved its intended objectives) and evaluation (the measurement of the total effects of the training program) in practice, this distinction is not always meaningful. Since it may be almost impossible to obtain information on the total effects of training, which may be extremely complex.

Yadapadithaya (2001:265) has stated that the training needs analysis and evaluation trends as follows;

> "A sound training and development program should contain specific, measurable, achievable, relevant, timely (SMART) objectives based on a systematic training-needs analysis conducted at three levels—individual (acquisition of proper knowledge, skills, and attitudes), operational (what an employee must do to meet organisation objectives), and organisation (organisation objectives, resources, and allocation of resources). A very important aim of the evaluation process is to determine whether the predetermined objectives are being met".

Yadapadithaya (2001:266) has highlighted two basic aims of evaluation: assessing training effectiveness and using it as a training aid and has stated the primary aim of evaluation as follows;

> "The primary aim of evaluation is to improve training by discovering which training processes are successful in achieving their stated objectives (to 'sort out the good training from the bad'). Since 'evaluation' affects 'learning', it can also be used as a training aid (knowledge of results facilitates good learning)".

Evaluation data can be obtained prior to training, during training, immediately after training, or at a specified time after the end of training. In most of the cases, evaluation was done immediately after the training (Yadapadithaya, 2001). As Yadapadithaya

points out, the various levels of evaluation—reactions, learning, job behaviour, organisational unit, and ultimate value—act as powerful links in a chain of cause and effect. Training leads to reactions, which lead to learning, which leads to changes in job behaviour, which lead to changes in the organisational unit, which lead to changes in the achievement of the ultimate goals of the organisation (Yadapadithaya). At the same time Yadapadithaya has argued according to his finding that this chain can be broken at any link when trainees have learnt something but not going to apply them to achieve objectives of the organisation. He concluded other deficiencies in corporate training and development system as lack of a clear-cut written training and development policy, weak interaction between the industries seeking training provision and the institutions providing training, lack of a systematic and comprehensive training needs assessment, and failure to evaluate the effectiveness of training and development programs. However, he has not focused on how new technology: HRIS can be used to increase the effectiveness of the evaluation stage of training and development.

Role of HRIS in improving training

Sadiq, Khan, Ikhlaq, and Mujtaba (2012:85) have stated that 50% believed HRIS improved the training process, only 37.5% believed that the information generated form HRIS was helpful in identifying the proper time to implement a training program, only 12.5% of the participants believed that HRIS had played a role in decreasing the cost of the training program.

Sadiq et al. (2012) have specified that the HIRS was not mature enough to have the capacity of properly incorporating the training needs of employees and the HRIS workers were not fully trained about the usage of HRIS as a tool to increase the efficiency of the training process since training has more strategic function as compared to administrative one, it was being ignored.

Sadiq et al. (2012) have highlighted that HR managers need to envision HRIS as an important component of the training process assessing what the training needs of employees are and then updating those needs in the profile of each employee. Furthermore, Sadiq et al. (2012) added once the majority of the training needs have been ascertained, then a training schedule can be designed accordingly and this schedule would then be keyed into the employee's profile, so that HR is aware of exactly what type of training is required, the time it would take to complete it, as well as its frequency and the overall cost.

Sadiq et al. (2012) concluded that HR department needs to monitor which employee has completed various training programs and whether that particular training helps

employees in better performing their jobs and if all these appear in the employees' profiles, then not only each employee's progression, but also the streamlining of the training process which can include duration, objectives, outcomes, relevance, and effectiveness can be ascertained.

Gebreyes (2013) highlighted that organizations HRIS has a clear policy regarding training and development but there were problems concerning its implementation and this would make difficult for HR department to optimize their contributions to the organization's objectives. Therefore, provision of training and development program to the management members as well as to employees with the aim of enhancing their knowledge, skill, an ability makes them always competent and responsive in performing their duties, is considered to be one of the key strategies that enhance the organization's efforts to achieve its objectives (Gebreyes).

According to Gebreyes (2013), Majority of respondents disagree that their organizations use HRIS training subsystem at an optimum level. Training subsystem of HRIS improve systems and support HR division in providing the highest quality of service to employees (r= 0.785) (Gebreyes). Khera1 and Gulati (2012) stated that HRIS exert outstanding strategic activities by HR managers including training and development management (r = 0.935) and succession planning (identification of key positions and their requirements) (r = 0.906).

Furthermore, Gebreyes (2013) stated that in order to gain the competitive advantage, the organisation's HRIS training and development subsystem should be strong and clearly communicated to all staff effectively and executives need to be trained on the application of the system.

Succession planning

Succession planning can be defined as the attempt to plan for the right number and quality of managers and key-skilled employees to cover retirements, death, serious illness or promotion, and any new positions which may be created in future organisation plans (Sambrook, 2005). It forms part of the human resource plan, which should contribute to the overall business plan human resource planning (HRP) attempts to ensure there is a match between the demand and supply of labour, from the internal (ILM) and/or external (ELM) labour markets (Sambrook). A key factor influencing succession planning is the role of human resource development, which includes organisational development, career development and the learning and development of potential successors (Sambrook). However, Sambrook has not discussed how IS, especially HRIS can be used in succession planning, which is the main weak point in his research.

HRIS mainly facilitate TNA and training evaluation phase. Succession planning which is facilitated by HRIS helps to identify key players in the organisation and develop them for future demand. In the Sri Lankan context, literature relevant to HRIS, training and development cannot be found. Especially, how HRIS contributes to HR panning through training and development is yet being studied.

Methodology

This study shares some of the positivism aspects which recognise only facts and observable phenomena and follow a deductive theory. Under positivism, theories provide the basis of explanation, permit the anticipation of phenomena, predict their occurrence and therefore allow them to be controlled (Collis and Hussey, 2009). Explanation consists of establishing causal relationships between the variables by establishing causal laws and linking them to a deductive or integrated theory (Collis and Hussey, 2009). Since it is assumed that social phenomena can be measured, the study is associated with quantitative methods of analysis. Though HRIS and business environment changes to some extent the results of the study can be generalised within a specific environment. Since the study is exploratory, it did not attempt to dig into deeper layers of reality. In positivism, the reality is objective and singular, separate from the researcher. Similarly, the researcher is independent of what was researched.

The HRIS role is subjective and multiple as seen by the senior HR executives. Therefore, biases are present. In that sense, a study is closer to interpretivism philosophy. Interpretivism is underpinned by the belief that social reality is not objective but highly subjective because it is shaped by our perceptions (Collis and Hussey, 2009). The researcher interacts with that being researched because it is impossible to separate what exists in the social world from what is in the researcher's mind (Collis and Hussey, 2009).

Even though it is difficult to classify the study under positivism/realism or interpretivism philosophy, it could be argued that this study is closer to realism philosophy since it was likely to affect senior HR executives' attitude and perception towards the efficient and effective use of HRIS in HR training and development in a given environment. Realism shared some philosophical aspects with positivism as well. Realism is based on the belief that reality exists that is independent of human thoughts and beliefs Saunders, Lewis, and Thornhill (2003). Senior HR executives themselves did not object to this study since HRIS' influence in HR training and development was independent of attitude and perception of senior HR executives as the fruitfulness of HRIS depends on its available features developed by vendors.

Despite that, HRIS usage in HR training and development depends on senior HR executives since their attitude, perception and behaviours deploy the HRIS role successfully, which is not noticeable to them.

Hypotheses were tested following deductive research approach. Study is based on quantitative data analysis, where deductive research approach was most suitable. Quantitative data was collected to quantify the organisational practice of HRIS for HR training & development using questionnaire. The study could be generalised to some extent due the sample size.

This study was designed to obtain research data in three different contexts: financial, service, and manufacturing organisations, over the same period. Cross-sectional study was selected as time horizon. One hundred and eighty-seven (187) senior HR executives selected using stratified random sampling technique and data collected on their opinion and behaviours.

Population and Sample

Table 1: Population and sample frame

Organisation types	Population	Sample
Financial organisations	8	3
Manufacturing organisations	10	3
Service organisations	13	3
Total	31	9

Table 2: Summary of distribution of target population among thirty-one organisations and sample distribution.

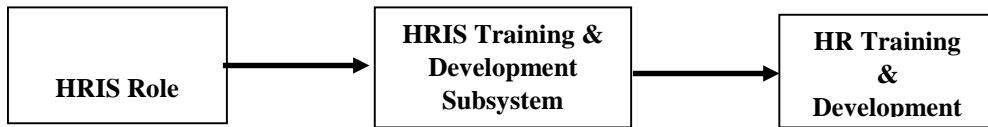| Private sector organisations	Senior HR executives (Who uses HRIS)	Senior HR executives (Who uses HRIS)
Financial organisations	96	53
Manufacturing organisations	129	66
Service organisations	147	68
Total	**372**	**187**

Conceptual Framework and Hypotheses

Figure 2: Schematic diagram for the conceptual framework

Source: Author developed

Conceptual framework (Figure 2) depicts HRIS contribution to HR training and development through the HRIS training and development sub system. HRIS training and development subsystem contributes the features of HRIS TNA (Glaveli and Kufidu, 2005), HRIS training program evaluation and HRIS succession planning (Lokhandwala, 2009).

A conceptual framework developed (Figure 3) to hypotheses a logical understanding of the associations between the factors that are identified as vital to the problem.
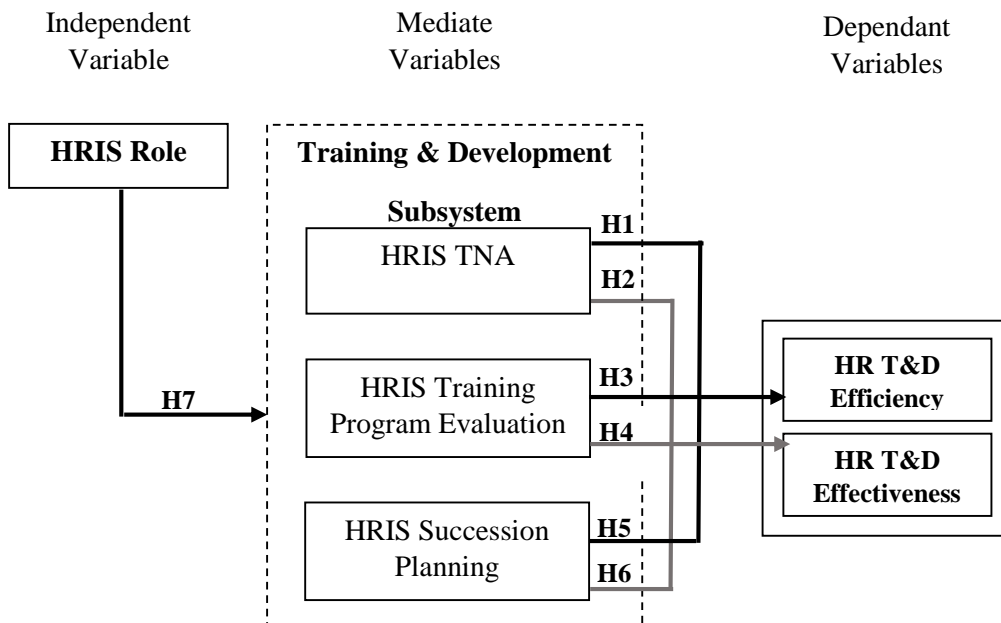

Figure 3: Variables in the conceptual framework

Source: Author developed

For research purposes, null and alternative hypotheses are developed as follows:

1. **HRIS training need analysis (TNA) process increases the efficiency and effectiveness HR planning of an organisation.**

   H_01: HRIS training need analysis (TNA) process does not increase the efficiency of HR planning of an organisation.

   H_a1: HRIS training need analysis (TNA) process increases the efficiency of HR planning of an organisation.

   H_02: HRIS training need analysis (TNA) process does not increase the effectiveness of HR planning of an organisation.

   H_a2: HRIS training need analysis (TNA) process increases the effectiveness of HR planning of an organisation.

2. **HRIS training process evaluation increases the efficiency and effectiveness of HR planning of an organisation.**

   H_03: Training process evaluation of HRIS does not increase the efficiency of HR planning of an organisation.

   H_a3: Training process evaluation of HRIS increases the efficiency of HR planning of an organisation.

   H_04: Training process evaluation of HRIS does not increase the effectiveness of HR planning of an organisation.

   H_a4: Training process evaluation of HRIS increases the effectiveness of HR planning of an organisation.

3. **Succession planning of HRIS increases the efficiency and effectiveness of HR planning of an organisation.**

   $H_0$5: Succession planning of HRIS does not increase the efficiency of HR planning of an organisation.

   H_a5: Succession planning of HRIS increases the efficiency of HR planning of an organisation.

   $H_0$6: Succession planning of HRIS does not increase the effectiveness of HR planning of an organisation.

   H_a6: Succession planning of HRIS increases the effectiveness of HR planning of an organisation.

4. **HRIS training and development subsystem contribution to HR planning**
   $H_0$7: HRIS training and development subsystem does not contribution to HR planning

   H_a7: HRIS training and development subsystem contribution to HR planning

Variables

Independent variable: HRIS role

HRIS role was identified from HRIS training and development subsystem. Mediate variables were identified considering available HRIS features. All the variables measured using a five point Likert scale ranging from strongly disagree (1), agree (2), neither agree nor disagree (3), disagree (4) and strongly agree (5).

HRIS training and development subsystem consists of TNA (Glaveli and Kufidu, 2005), training program evaluation and succession planning (Lokhandwala, 2009) features.

Dependent variable: HR training and development (Nagi and Wat (2006), Panayotopoulou et al. (2005), Beulen (2009))

Table 3: Breakdown of variables

Independent variables	Mediate variables	Dependant variables
HRIS Role	Training and development subsystem HRIS TNA (Glaveli and Kufidu, 2005) HRIS training program evaluation HRIS succession planning (Lokhandwala, 2009)	HR training and development Ngai and Wat (2006), Panayotopoulou *et al.* (2005), Beulen (2009), HR training and development effectiveness Panayotopoulou *et al.* (2005), Will and Hammond (1981), Ngai and Wat (2006), Gebreyes (2013) HR training and development efficiency Khera1and Gulati (2012)

Table 3 is evidence for variable break down based on the variable types: independent, mediate and dependant. Furthermore, it illustrates the researchers' references that used those variables for their works.

Multi-item indicators of independent variables

The independent variables identified in the research model measured using multi-item indicators (Table 4).

Table 4: Multi-item indicators of independent variables

Variables	Items	Description
HRIS TNA	TNA1	HRIS provides insight into organisational training needs.
	TNA2	The outcome of HRIS training needs analysis (TNA) is accurate.
HRIS Training Process Evaluation (TE)	TE1	Managers find HRIS detailed training plan relevant to their needs.
	TE2	HRIS evaluates the effectiveness of training programs.
	TE3	Employees find HRIS training programs relevant to their needs.
	TE4	HRIS selects right person to be trained at right time.
	TE5	HRIS eliminates skill gaps across the organisation.
	TE6	HRIS plays a vital role administrating training programs.
	TE7	HRIS assesses the budget of training and development programs.
HRIS Succession Planning (SP)	SP1	HRIS makes better and faster decisions about successor rankings.
	SP2	HRIS identifies specific key positions and target specific employees as potential successors.
	SP3	HRIS minimises costs associated with succession planning or applicant tracking.
HR T&D Effectiveness	HRTDEff	Organisation's training and development is highly effective
HR T&D Efficiency	HRTDEffi	Organisation's training and development is highly efficient

HRIS training and development subsystem utilisation	TDU	Organisation uses HRIS training and development subsystem in optimum level
Organisation Type	OT	Organisation Type

Table 5: Measurement scales for variables

Variable	Measurement	Variable Type
HRIS TNA	Ordinal Scale	Mediate
HRIS Training Program Evaluation		
HRIS Succession Planning		
HR training and development Effectiveness	Ordinal Scale	Dependent
HR training and development Efficiency	Ordinal Scale	Dependent
HRIS Training and Development Utilisation	Ordinal Scale	Independent
HRIS Role	Ordinal Scale	Independent
Organisation Type	Ordinal Scale	Independent

Discussions and Findings

Table 6: Summary of the results

	Variables		Spearman's correlation	Significance (2-tailed)
	Mediate	**Dependant**		
HRIS training and development subsystem contribution	HRIS TNA	Efficiency of HR T&D	.920	.000
		Effectiveness of HR T&D	.496	.000
	HRIS training	Efficiency of HR T&D	.837	.000

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	program evaluation	Effectiveness of HR T&D	.483	.000
	HRIS succession planning	Efficiency of HR T&D	.753	.000
		Effectiveness of HR T&D	.475	.000

H1 and H2: HRIS training need analysis (TNA) process increases the efficiency and effectiveness of HR training and development of an organization.

According to summary of the results table (Table 6), the correlation between the variable HRIS TNA process and efficiency of HR training and development is a very high positive value 0.920 (r = 0.920, p<0.01) and the correlation between the variable HRIS training need analysis (TNA) process and HR training and development is a medium positive value 0.496 (r = 0. 496, p<0.01).

Therefore, higher utilization of HRIS TNA process in an organization increases the efficiency of HR training and development process but does not increase the effectiveness of HR training and development process considerably.

H3 and H4: Training process evaluation of HRIS increases the efficiency and effectiveness of HR training and development of an organization.

According to summary of the results table (Table 6), the correlation between the variable HRIS training process evaluation and efficiency of HR training and development is a high positive correlation value 0.837 (r = 0.837, p<0.01) and the correlation between the variable HRIS training evaluation process and HR training and development is a medium positive value 0.483 (r = 0. 483, p<0.01).

Therefore, higher utilization of HRIS TNA process in an organisation increases the efficiency of HR training and development process but does not increase the effectiveness of HR training and development process considerably.

H5 and H6: Succession planning of HRIS increases the efficiency and effectiveness of HR planning of an organisation.

According to summary of the results table (Table 6), the correlation between the variable HRIS succession planning and efficiency of HR training and development is

a high positive correlation value 0.753 (r = 0.756, p<0.01) and the correlation between the variable HRIS succession planning and HR training and development is a medium positive value 0.483 (r = 0.475, p<0.01).

Therefore, higher utilisation of HRIS succession planning in an organisation increases the efficiency of HR training and development but does not increase the effectiveness of HR training and development considerably.

H7: HRIS training and development subsystem contribution to HR planning

According to the correlation coefficient value in the coefficients table (Table 7), the correlation between the variable HRIS training and development and HR planning is 0.776 (r = 0.776, p<0.01) which indicates a high positive association. This would mean that the HRIS training and development subsystem positively contribute to HR planning of an organisation.

Table 7: Spearman's correlation for HRIS training and development subsystem contribution and HR planning

			HRIS training and development subsystem	HR planning
Spearman's rho	HRIS training and development subsystem	Correlation Coefficient	1.000	.776**
		Sig. (2-tailed)	.	.000
		N	89	89
	HR Planning	Correlation Coefficient	.776**	1.000
		Sig. (2-tailed)	.000	.
		N	89	89

** Correlation is significant at the 0.01 level (2-tailed).

Correlation matrix

Multiple linear regression analysis was used to develop the model for the role of HRIS in HR training and development. The correlation matrix below (Table 8) depicts the

correlation between each pairing of the three variables; HRIS TNA, HRIS training evaluation and HRIS succession planning which represent the HRIS training and development subsystem. HR planning and HRIS TNA have a correlation of 0.850. HR planning and HRIS training evaluation have a correlation of 0.808 and HR planning and HRIS succession planning have a correlation of 0.768. All correlations are positive at the significance level of 0.000 where sample size is 89. The findings revealed that HRIS TNA is the strongest or the most important tool in HRIS training and development subsystem. Hence, there is a statically significant impact of HRIS on HR Planning. Furthermore, the findings are tally with Khera1and Gulati (2012) and Gebreyes (2013) results as well.

Table 8: Correlation matrix

Correlations

		HR Planning	HRIS TNA	HRIS Training Evaluation	HRIS Succession Planning
Pearson Correlation	HR Planning	1.000	.850	.808	.768
	HRIS TNA	.850	1.000	.865	.817
	HRIS Training Evaluation	.808	.865	1.000	.779
	HRIS Succession Planning	.768	.817	.779	1.000
Sig. (1-tailed)	HR Planning	.	.000	.000	.000
	HRIS TNA	.000	.	.000	.000
	HRIS Training Evaluation	.000	.000	.	.000
	HRIS Succession Planning	.000	.000	.000	.
N	HR Planning	89	89	89	89
	HRIS TNA	89	89	89	89
	HRIS Training Evaluation	89	89	89	89
	HRIS Succession Planning	89	89	89	89

Conclusion

Sri Lankan private sector organisations agreed (65.34%) that training and development subsystems contribute to HR training and development (Table 9).

Collected evidence proved that the available HRIS functionalities adequately support the efficiency of organisational HR training and development process but not its effectiveness. The senior HR executives acknowledged that HRIS fully contribute to HR training and development as MIS and DSS since they use HRIS for decision making purposes (61.69%). This finding is in line with the findings by Beadles et al. (2005), Nagi et al. (2006), DeSanctics (1989), Beulen (2009) and Ngai and Wat (2006). Most organisations use HRIS for TNA enabling the efficiency of HR training and development process.

This finding indicates that senior HR executives believe HRIS help them to do the things right but not to do the right thing. It seems that they do not like to depend on the HRIS outcomes more than they depend on their experience and knowledge. Vendors need to train the users explaining how HRIS features can be used to gain increased effectiveness of HR training and development process.

Table 9: Organisation HRIS usage

HRIS Features	Agreed Percentage for each factor
HRIS TNA	82.55%
HRIS training process evaluation	53.93%
HRIS succession planning	68.17%

Implications for theory

Based on the findings following model is suggested (Figure 4) for improving the contribution of the training and development subsystems.
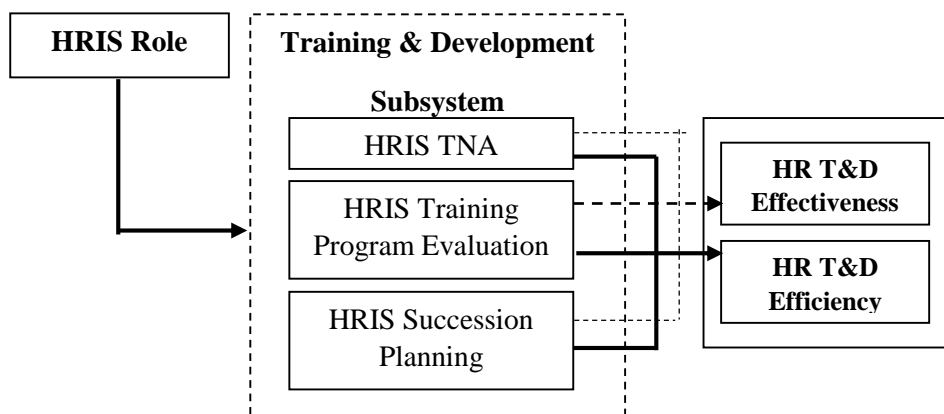

Figure 4: Proven model of the research

Recommendations

Application of HRIS

Research findings clearly show that senior HR executives are well aware that they can increase the efficiency of HR training and development through HRIS, saving time and cost. However, findings do not support the premise that HRIS increases the effectiveness of HR training and development. Organisations should identify the strategic value and competitive advantage that they can gain through HRIS in HR training and development.

HRIS outcomes can be applied wherever possible as deemed fit by the HR professionals, going by their experiences. Contradicting situations need to be documented and discussed with the vendors. For example, even though 57.30% of senior HR executives believe that managers find HRIS detailed training plan relevant to their needs, just 31.40% of them (senior HR executives) are convinced that employees find HRIS training programs relevant to their (employees') needs.

Clarifying HRIS features

Organisations need to agree with the vendor on HRIS features when they invest on HRIS. Required subsystems need to be planed and ordered beforehand to avoid malfunctions due to incompatible infrastructure and higher upgrading cost. Organisations would record good HR training and development efficiency and effectiveness if HRIS aligns with information system strategy (65.20%) and HR strategy (65.10%). Organisations need to integrate HRIS functions with other business functions.

Enhancing the HRIS using artificial intelligence

According to the findings, HRIS decision making functions do not increase the effectiveness of HR training and development. I propose to develop HRIS with the expert system functionalities enabling the user to make decisions more effectively. HR knowledge acquisition subsystem is required to acquire the HR expert's knowledge as facts and proceeds to design a knowledge base. The knowledge base contains essential information about the problem domain. The inference engine has a mechanism to originate / generate new knowledge from the HRIS database, knowledge base and users' information, based on rules. User interface creates the interaction with end users. Each sub system is attached to a user interface where the user can enter information into the relevant subsystem and view information, provided by subsystems based on rules and facts.

Limitations

Although study was based on nine organisations from three sectors, there is no reason to believe that these nine are any different from other private sector organisations in Sri Lanka who employ HRIS. However, a study involving the whole population would give more reliable results. This was difficult within given time and cost limitations. Study was based on the Colombo municipal council area. A larger geographical sample, involving private sector organisations throughout the country could have led to slightly varied results.

Implication for further research

This study was an explanatory research providing a platform for future work in this area. A detailed study can be carried out with the participation of HR department heads, senior HR executives, HR executives, IT executives and vendors. Organisation size and its investment decisions is another research area that has to be studied in the Sri Lankan context. HRIS user population is small in Sri Lanka due to its cost. Especially small organisations could not use integrated HRIS with ERP at an affordable cost. A future researcher can find a solution for small and medium scale organisations' HRIS requirements. Solutions can be in the form of outsourcing or in the form of cloud computing which is a new concept to Sri Lankan industries.

Though organisational planning consists of marketing, financial, production planning, this study was based on the HR training and development aspect. A future researcher can find the contribution of HRIS to cooperate planning in order to gain a broader understanding. This research was mainly based on training and development subsystems. Future research may be based on other subsystems as well. How well HRIS reengineer the organisation, what sort of data security HRIS users can expect and what is the contribution of eHRM to HR planning would be interesting areas for another study. A future researcher can enhance existing HRIS models enriching their intelligence.

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An Analysis of Port Selection Criteria of Shipping Lines in Sri Lanka

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Abstract:

The rapid increase in the world trade due to the interdependency of countries increases the demand for the maritime industry continuously. As Sri Lankan port complex is playing a crucial role in the international trade, the governors are aiming at being a regional hub. Likewise, the contribution of Sri Lankan ports to the national economy has to be increased. The ports should satisfy the requirements of its customers to attract more vessels. Hence, the research aimed to identify the port selection criteria of the shipping lines in Sri Lanka. The data has been gathered administering a questionnaire and highly considered factors in port selection have been identified. The port navigational charges and port handling / stevedoring charges are the highly considered pricing factors in selecting a port. However, the all other factors considered by shipping lines are quality related factors such as operational productivity, transshipment volume, and feeder services. The findings proved that the Colombo port has been offering competitive price and service but the Hambantota port is far behind from that. The research revealed that the quality and pricing strategy should be enhanced of Sri Lankan ports in order to realize the dream of a regional maritime hub.

Key words: Shipping Lines, Navigational Charges, Maritime Hub, Transshipment, Price, Quality

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Introduction

The emergence of the globalization the countries have been linked with each other through the international trade. The interdependency among countries has strengthened the logistic industry in the world. Maritime and aviation industries which smooth the logistic chain have become the backbone of the international trade. Hence, the seaports and the airports have become the crucial players in this business. Historically (Rathnayake & Wijerathne, 2012) sea ports have been the focal points of local, regional, national, and international economic development and social changes. Recently as an aftermath of the increase in international trade, larger vessels with newer technology were invented. The hub concept has also emerged giving opportunities for the countries to obtain perfect economic benefits from the ports within their territories. This trend has made Sri Lanka also to seek opportunities to act as a maritime hub in the region. The strategic location of the country has added more benefits in realizing the dream of being a regional maritime hub in the future.

To make that dream a reality, it is essential to attract more vessels to Sri Lankan ports. In this case, it should be noted that there is a derived demand for a port as it occurs due to the direct demand for accessibility. Then the demand for internationally manufactured goods creates a demand for the port and its services. Seaports have been a focal point in the modern day business world. With the existing and developing supply chains, today's businesses work in a global context. Hence, it has become more important for them to import and export to distribute their products to the global market. Maritime transportation is the most economical way of transporting large quantities of freight and shipping lines regularly make the decision to identify their port of choice.

Consequently, the shipping lines become the main customers of the ports and their services. Shipping lines should be satisfied to increase the demand for the ports and their services. This research focused on identifying the port determining factors of shipping lines/agents in Sri Lanka. Sri Lankan shipping agents are the ones who create and maintain the image of the Sri Lankan maritime industry. Hence, their port selection criteria have to be examined in order to achieve the expected demand for the Sri Lankan Ports.

It has been noted that the different views have been expressed on port of Hambantota. As the Hamabantota port is a newly built landmark in the maritime industry in Sri Lanka there are controversial ideas emerging about this port. However, an economist must think of a way to develop this port. It can only be done by increasing the demand for the port services at the Hambantota port. As this research is focusing on identifying the port selection criteria of the shipping lines in Sri Lanka, the findings would assist in recognizing means and ways to reach that goal.

By identifying the factors affecting the perception of the customers in choosing a port, lead to investigate what kind of policies can be implemented to develop ports to gain the economic benefits to the country as well as to the shipping industry. For an example, identifying how the port charges at Sri Lankan ports affect its demand, from shipping lines' point of view will be much cooperative in formulating a proper pricing strategy for ports.

Moreover, it has been recognized that there is a shortage of researches related to the maritime industry in Sri Lanka. The research would assist to fill the shortage since this research is converging on the port selection criteria of shipping lines. Since the Port of Colombo and Port of Hambantota are now actively engaging in the business, the finding of this research would beneficial in enhancing those ports to meet the shipping lines; requirements. Finally, the increase in demand for these ports would assist the development of the Sri Lankan economy.

Literature Review

Marine ports are vital to modern day businesses. With extensive and complex supply chains, modern businesses work in a global environment. It has become imperative for them to import/ export to deliver their products to the market. Since maritime shipping provides the most economical way to transport large quantities of freight, businesses or shippers frequently make the decision to identify their port of choice. Several previous studies and industry articles have made efforts to understand a shipper's port choice selection criterion, but the complexity and lively nature of international trade and logistics industry have kept this area as an enduring research subject. Nevertheless, selecting a port is definitely a challenging task for shippers and from the other hand to make a port competitive is a challenge for port service suppliers. The demand for the port is a function of price and quality related factors of port services. It reflects the characteristics of port selection criteria. According to the Wilder and Pender (1979), emphasized that the demand for the services of a particular port is a function of the price of its services, the quality of its service.

However, since the dynamic nature occurred by the maritime sector port selection criterion of shipping lines always vary. Port officials (Mittal & McClung, 2016) are under constant fear of losing their customers/ attractiveness often not due to the deficiencies in their physical port infrastructure, but due to the shippers' constantly changing requirements and priorities. Slack (1985), indicated that the price and number of sailings had become the most important criterions. Moreover, Jamaluddin(1985) had defined the six service attributes from both the shipper and the carrier perspective and the most important factors considered by shippers are freight rate, cargo care and handling knowledge ability. Based on reviewing 74 papers,

Weber et al., (1991) observed that price, delivery, quality, production capacity and location are the criteria most often treated in literatures.

However, the price of port services played a significant role in the port selection criteria affecting the shipping lines' perception, the priority has given to price related factors have been changed with the change of time.

With the improvement of technology and the shipping industry has also become more quality oriented. Petroni & Braglia (2000) proposed that criteria such as management capability, production capacity and flexibility, design and technological capability, financial stability, experience and geographical location, address integration capabilities of visible suppliers. Malchow and Kanfani, (2001) identified the factors affecting the port selection for US export liner cargo using a multinomial logic model and found that oceanic and inland distances affect port selection negatively. They later confirmed location as the most important characteristic of a port. So it is clear that the location of the Hambantota port can attract the customers well.

By evaluating factors influencing port choice decision from freight forwarders' perspective Tongzon(2009) found that the port's efficiency, shipping frequency, infrastructure, and location are the most dominant factors from the freight forwarders' perspective.

Tang et al. (2011) found that port efficiency and economies of scale are the two vital dimensions influencing liner-shipping companies' selection. Main shipping companies' operators in Iran (Zarei, 2015 as cited in Mittal & McClung, 2016) revealed that the level of services of supplying companies and customs rules play an important role in selecting the ports.

A port (Kindleberger, cited in Ghosh, 2001) is essentially an economic concept, an economic infrastructure that serves coastal and overseas traffic. Port is a subsystem of the total transport network and a meeting place of other modes of transport. Several researchers have emphasized that there is a strong relationship between the economy and the ports of a country. As port is essentially an economic concept, the relationship between economy and ports has to be identified. Fujita and Mori (1996) have explained the evolutionary model of spatial economic development in which agglomeration economies and the hub effect of transport nodes interplay in the making of major cities. But their findings may not be true in case of an economy where ports do not play a decisive role in the growth of the economy.

Inter port competitiveness is also affecting the demand of port services as shipping lines consider the prices and qualities of services provided by other ports in selecting a port. Rivalry between ports (Wilder and Pender, 1979) is keen, particularly between

ports in the same region. For example, they mention that for the U.S public ports, competition in quality and service appears to be much more important than price.

As Gunaruwan and Edirisingha (2012) analyzed, the most outstanding priority was given to the transshipment volume by shipping lines. Port capacity and efficiency become the second factor while domestic volume potential turned out to be the third most important factor. A noteworthy finding of their research was that the shipping lines give relatively low importance for the cost related factors associated with a port. The only (Gunaruwan and Edirisingha, 2012) two cost related factors namely handling / stevedoring costs and port navigational cost, which qualified to be included among the top ten most important determinants, came in as the last two in the priority order.

According to the Zarei (2015), the most prominent two factors considered by shipping lines are quality of products delivered and port infrastructures. The previous literature emphasized that the port selection criteria of the shipping lines have been changing over the time. It has been notified that the price related factors were considered as the most important factors. However, with the time change, the shipping lines have become a more quality-oriented business.

According to the above-discussed literature there are several factors considered by shipping lines in selecting a port. All those factors related to either to price or to the quality of port services. This research would reveal the factors considered by the shipping lines in Sri Lanka in selecting a port for calling vessels. It would expose that whether the shipping lines in Sri Lanka consider price or quality related factors as important factors in port selection.

Methodology

The survey was conducted among 14 shipping agents who represent International Shipping Lines. Since the research was planned as a qualitative research, the sample was selected using a Non – Probability sampling method that gives an opportunity for a researcher to choose the respondents. Since the necessity to add, shipping lines that deal with the port of Hambantota to the sample, the said sampling method was adopted. The primary data gathered through semi-structured interviews conducted by administering a questionnaire. With reference to the literature, the factors considered by shipping lines when calling their vessel over a port were identified and conceptual framework was generated.

The research adopted the "Stated Preference" methodology in order to identify the important factors considered by shipping lines in selecting a port. Under the stated preference, method the "Ranking" tool was used which is a virtuous approach to measure priorities. Using the ranking method, the shipping lines were asked to rank a list of factors from the most important to the least important. The order a shipping agent chooses reflect how they prioritize the determinants. The-collected data was categorized and presented in tabular and graphical forms. Average rank assigned to each factor, and the percentage of respondents assigning such rank, were used in result analysis.
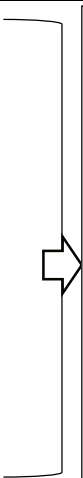
Table 1: Pricing and Quality Factors Affect to the Shipping Lines Perception in

Selecting a Port

Pricing factors	Quality factors
- Navigational charges - Licensing of harbor crafts, occupation and OPL charges - Stevedoring and harbor tonnage charges - Shipping charges - Hiring charges	- Transshipment network - Port efficiency/ capacity - Domestic trade - Skilled personnel - Strategic Location

(Source: Literature Review of the Study)

Price, quality and the value of port services are the factors affecting both demand for port services and the perception of shipping lines. The value of port services is also reflecting from the prices of port services.

Table 2: Sub Division of Price and Quality

Factor	Nature		
Transshipment volume potential of the port	Transshipment network		**Q**
Feeder network availability to cover all destinations	Transshipment network		**U**
Frequency of feeders	Transshipment network		**A**
Availability of on- arrival berthing	Port efficiency/ capacity		**L**
Operational productivity	Port efficiency/ capacity		**I**
Ship turnaround time	Port efficiency/ capacity		**T**
Domestic volume potential of the port	Domestic trade		**Y**
Deviation time from main sea route	Geographic location		
Port handling/ stevedoring costs	Port charges/ costs		
Port navigational costs	Port charges/ costs		**P**
Licensing Of Harbour Crafts, Occupation & OPL Charges	Port charges/ costs		**R**
Landing, Delivery and shipping charges	Port charges/ costs		**I**
Price of general services	Port charges/ costs		**C**
Hiring charges	Port charges/ costs		**E**

(Source; Literature Review of the Study)

Price and the quality of port services affect in selecting a port. Based on those factors, the price is categorized into five categories such as Navigational charges, Licensing of harbor crafts, occupation and OPL charges, Stevedoring and harbour tonnage charges, Shipping charges and Hiring charges. The quality factors are divided in to four categories as Transshipment network, port efficiency, domestic trade volume, skilled personnel. The quality factors and prices are sub divided as shown in the Table 2.

Analysis and Discussion

The survey conducted among shipping companies became useful in this context in order to identify the factors that influence shipping lines to call at a particular port. As those factors reflect the prices and the quality of port services, this helped to identify that the priority they give for prices and quality related factors in selecting a port. The table III and the figure I summarize the ten most important elements out of sixteen factors.

The most outstanding priority, as expressed by shipping lines would be the port navigational cost itself. It is noteworthy that 79% of the respondents have ranked this factor as the most important determinant and the remaining 21% have included this factor among the five most important determinants. The finding contrasts with the findings of the most of the previous researches. Though the (Slack, Jamaluddin and Tongzon, 1985, 1995, 2000) identified that port charges are significant factors in selecting the port, the recent literature such as (Tongzon, Edirisinghe and Zarei, 2009, 2012, 2015) indicated that the quality related factors are more significant than the pricing factors. However, the port navigational costs, a pricing factor is the most important factor, which is selected by 79% of the sample as the first prioritized factor.

Table 3: Preference for the Port Determining Factors

| FACTOR	1st priority	Among first five priority
Transshipment volume potential of the port	14%	50%
Feeder network availability to cover all destinations	0%	0%
Frequency of feeders	0%	43%
Availability of on- arrival berthing	7%	29%
Operational productivity	0%	93%
Ship turnaround time	0%	79%
Domestic volume potential of the port	0%	0%
Deviation time from main sea route	0%	36%
Port handling/ stevedoring costs	0%	79%
Port navigational costs	79%	100%
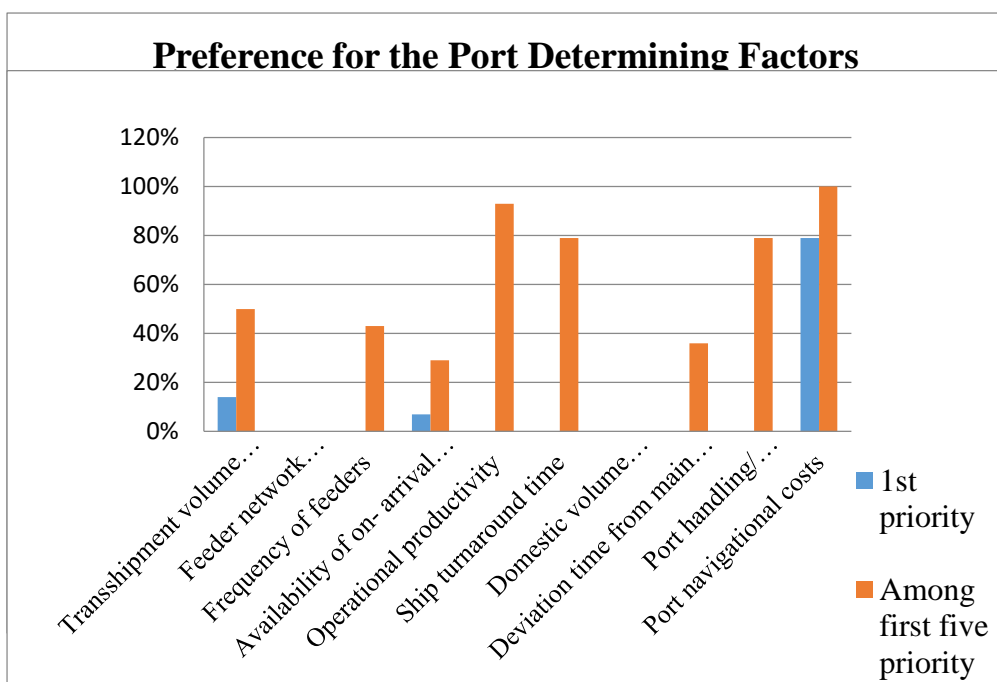
Figure 1: Shipping Lines' Preference for the Port Determining Factors

As the research is conducted to expose the port selection criteria determined by the shipping agents in Sri Lanka based on price and quality related factors, the port charges have been given some importance. The priority given by shipping lines for the various port charges was identified. The results have been shown in Table IV.

Table No 4: Preference for the Port Charges

PORT CHARGE	1st	Among first three
Navigational charges	86%	100%
Licensing of harbour crafts, occupation and OPL charges	0%	0%
Stevedoring and harbour tonnage dues	14%	100%
Landing, Delivery and Shipping charges	0%	79%
Price of general services	0%	21%
Hiring charges	0%	0%

According to the Table IV, port navigational charges emerged as the most important price related factor in selecting a port. Stevedoring and harbour tonnage dues were found ranked as the second most important price factor with 14% of respondents ranked it as the most important price factor. Altogether navigational charges and the stevedoring charges both were ranked among top three price related factor by the entire sample.

Landing & shipping charges turned out to be the third most important factor with 79% of the respondents including it among the top three. Price of general services was ranked among the first three price factors by 21% of the respondents. Hiring charges and Licensing of harbour crafts, occupation and OPL charges are not considered as the most important price related factors.

According to the Table III, transshipment volume potential of the port emerged as the second most important determinant with 14% of the respondents ranking it as the most important and 50% including it within the five most important determinants.

Availability of on arrival berthing emerged as the third most important determinant with 14% of the respondents ranked it as the most important. But only 43% of the respondents marked it as a factor among first five important determinants.

Though the operational productivity was not considered by any shipping line as the most important factor, 93% of the respondents have ranked it as a factor among first five important factors in selecting a port.

Ship turnaround time and the port handling and stevedoring cost were identified as the fifth most important factors with 79% of the respondents including both factors among top five, though none had ranked them as the most important factor.

Deviation time from main sea route was identified as the 7th most important factor with 36% of the respondents including it among the top five factors. Among South Asian ports, Hambantota has the least deviation from the main sea route. Thus, Sri Lanka should exploit this advantage to the maximum.

A noteworthy exposure in this research was the relatively low importance the shipping lines appeared assigning to price-related factors. The only two price related factors namely, port navigational cost and handling and stevedoring costs. Though the other price-related factors which reflect the cost for shipping lines have less important, port navigational cost turned out to be the most important factor with 77% of the respondents including it as the most important factor and 100% of the respondents ranked it among the top five. Further, handling/stevedoring costs were found ranked among the first five factors by 79% of the sample.

According to the results of the survey, though the navigational cost became the most important factor considered by a shipping line in selecting a port, most of the quality related factors have been ranked among the first five important factors. Only two

price-related factors could be identified as the important factors among top five. It was also important to examine the port selection process used by the shipping lines. Reason wise it would be helpful in which sectors Hambantota has to be developed to meet the shipping lines' requirements. The response strongly favoured the quality related factors over price related factors although they highly consider the port navigational cost in selecting a port.

Ports are economic accelerators because their contribution to the economic growth is significant. Thus, there are more ports in a country and altogether there is more competition among the ports in the region. This research identified the capability of the Sri Lankan ports compete with other regional ports have also been examined. The port competition rises based on prices and quality of services. According to Edirisingha and Gunaruwan(2012), relative competitiveness in service provision efficiency might possibly have overridden their cost disadvantages. According to the results of the research, it is identified that quality related factors are more important in selecting a port. Nevertheless, navigational cost and stevedoring cost has significant value in selecting a port.

When considering the prices of port services offered by different, regional ports, it was found that Singapore offers prices that are more attractive. Table V shows that 79% of the respondents have ranked Singapore as the best port which offers best prices. Not only that but also 21% of the respondents ranked it as the second best port offering attractive prices.

Table 5: Shipping Lines Perception about Port Prices at Regional Ports

PORT	1ST	2ND	3RD
Hong Kong	0%	43%	29%
Singapore	79%	21%	0%
Kaohsiung	0%	21%	0%
Busan	0%	0%	43%
Colombo	21%	7%	29%
Port Kelang	0%	0%	7%

Colombo port is also having a significant attraction as 21% of the respondents emphasized that Colombo is the port, which provides the best prices for them. Bangkok has been ranked as the third best port for offering attractive prices.

Hongkong, Kaoshoung and Busan have also been ranked among the top three ports for offering attractive prices. Nevertheless, Hambantota has not been able to come up to even top five ports offering attractive prices. It reveals that the Hambantota port

should adopt an attractive pricing strategy. Then the port will be eligible to reach up to the expected demand level.

Conclusion and Recommendations

According to the results of the research, shipping lines expect attractive prices and high quality of services from a port. Price and quality are the main two components that are considered by shipping lines in selecting a port. The findings convinced that the shipping lines give high priority to the quality related factors than the prices.

Since the research has found that, the port navigational charges and the stevedoring charges are the price related factors, which influence shipping lines in selecting a port. Colombo port and Hambantota port should be able to offer competitive charges on navigation and stevedoring. According to the Table 5 Shipping lines believe that Port of Colombo is offering attractive prices. Then the authorities should concentrate on the pricing strategy of Hambantota port. On the other hand, the Ports Authority has to have aware about the charges at other competitive ports in the region because Hambantota should offer low prices to attract shipping lines as it is still in its infancy with a slowly growing demand. In contrast, Ports Authority should be aware to offer attractive prices for the charges paid by the line. If it makes profitable for shipping lines to deal with Sri Lankan ports, they will handle their business. There will be only a few reasons slow steam or stop vessels when ships are on their way to loading or discharging ports. Therefore, the prices should be competitive for them to stop at Hambantota.

Fortunately, both Colombo port and the Hambantota port have the benefits of their strategic location. Since both of them have the less deviation from the main sea route. The findings confirm that the quality of Sri Lankan ports have to be developed. The second priority of the shipping lines has given to the transshipment volume potential of the port. Hence, the transshipment potential of the ports has to be developed. Skilled personnel and well developed equipment has to be used in order to achieve that target. The majority of shipping agents have ranked operational productivity among the first five factors and this finding convinced that there is a necessity for improving the above-discussed facilities. Moreover, the domestic cargo level has to be increased. Since the Colombo is the commercial capital, it would be convenient to attract domestic cargo. The problem a rises with the Hambantota port, as it does not have the attractive market around the port. According to Stopford (1997), a versatile port must be able to handle different cargoes – bulk, containers, wheeled vehicles, general cargo and passengers all require different facilities. To satisfy the customer those services have to be provided at Hambantota port also.

The research on port selection criteria of the shipping lines reflects that the shipping lines give high priority to the navigational charges in selecting a port and all other factors, which were given high priority, are quality related factors. Then it will assist

to attract more vessels to Sri Lanka. Hence, the Sri Lanka should pay attention in developing the ports according to those requirements in realizing the dream of maritime hub.

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