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An Analysis of Economic Impact of Microfinance Programs through Self Help Groups in Sri Lanka

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Abstract: The microfinance is a tool for empowerment of poor people which could contribute for the development of the economy. The objective of this paper investigates whether the micro finance through Self Help Groups would enhance economic and social empowerment of the poor people in Sri Lanka. The data were collected among Self Help Group members during the period 2009 and 2010. The results revealed that no group members were involved in any economic activities in the pre- Self Help Groups; rather they are involving only in household affairs. But, in the post-SHG almost all members involved either in business or production activities in small scale. Although there is high inequality in income distribution among the selected Self Help Groups economically empowered in the post –SHG from no income level. It is also observed, financial institutions are encouraged to micro financing through SHGs since the repayment rate is very high.

Keywords: Micro finance, Self Help Group (SHG), Socio-Economic Empowerment, Sri Lanka

Introduction

The microfinance is a tool for empowerment of poor people which could contribute for the development of the economy. Micro finance facilities are designed to reduce the vulnerability of poor people and to help them move on to higher income growth paths. The concept of micro finance for rural people was introduced in Bangladesh in the year 1976 by Md.Yunus, Nobel Laureate and the Chairman of Bangladesh Grameen Bank and it is now a worldwide movement comprising thousands of specialists, banks, credit unions, co-operatives, village credit societies, Non Government Organizations and charities spanning both the richest and the poorest countries.

Microfinance institutions could play a pivotal role in meeting the financial needs of both poor households and micro enterprises. Traditional financial institutions have failed to provide adequate saving and credit services to the poor. On the supply side microfinance could be the best instrument to bring about poverty eradication by loosening constraints on capital, opening up doors for investment, smoothing consumption over time and meeting emergency liquidity needs. On the demand side microfinance institutions could mobilize poor people's savings and enable them to accumulate interests on their deposits (United Nations, 2000). In Sri Lanka, it has been identified that banking institutions, Government anti-poverty programs (Samurdhi), NGO's, INGO's, Community revolving fund projects and Women Rural Development Societies (WRDS) are involving in micro finance programs.

Group lending has been one of the mechanisms for lending the money effectively for the poor people in the world. SHG is a small economically homogeneous and affinity group of the rural poor, voluntarily coming together with the objective of saving small amount of money regularly or mutually agreeing to contribute to a common fund or meeting their emergency needs, and providing collateral free loan with terms decided by the group at making given rates. The group undertakes the responsibilities of delivering non credit services such as literacy, health and environmental issues. The habit of saving paves the way to repay loans. SHGs empower the poor and train them to take active part in socio economic progress of the nation and make them sensitized, self made and self disciplined citizens.

Group-based lending has been favored by both the donor community and the NGOs in the past decade. Encouraged by the success of the Grameen Bank and other solidarity group programs, replications have grown up in all parts of the world with widespread financial support from donor agencies. Despite a lack of conclusive research, three advantages of group lending are often cited: 1) it reduces institutional transactions costs, 2) repayment rates are more favorable in group lending schemes due to peer pressure and group solidarity, and 3) poor people, and especially women, prefer to work in groups for financial and social reasons. SHGs undertake entrepreneurial activities at smaller level with minimum capital requirements. In future, the inbuilt strength of the SHGs, will pave the way to undertake mega projects, performed by joint stock companies, public sector enterprises etc. SHGs have the power to create a socio-economic revolution in the rural areas of the country. They have proved that they could indeed bring about a change in the mindset of the very conservative and tradition bound people in rural areas. Self help groups have paved the way to bring the poor people into the main stream of social and economic progress of the country.

The objective of this paper is to investigate the impact of micro finance programs through SHGs in Sri Lanka. It also focuses on whether the micro finance through SHG would enhance economic and social empowerment of the poor people.

Previous studies

In the previous studies, the authors (e.g. Besley and Coate (1997), Ghatak (1999) have explained the relationships between the micro financing and SHGs and the benefits of micro financing through SHGs. Micro finance is a financial alternative for people in the lowest bracket of the income distribution that aims to promote economic development by breaking the poverty cycle through access to credit and fostering entrepreneurship. "The hope is that much poverty can be alleviated— and that economic and social structures can be transformed fundamentally—by providing financial services to low-income households" (Morduch 1999, p. 1569).

The rise of the microfinance industry represents a remarkable accomplishment taken within historical context. It has overturned established ideas of the poor as consumers of financial services, shattered stereotypes of the poor as not bankable, spawned a variety of lending methodologies demonstrating that it is possible to provide cost-effective financial services to the poor, and mobilized millions of dollars of "social investment" for the poor. Microcredit is most often extended without traditional collateral. If physical collateral were a requirement for borrowing, most Micro Finance Institutions (MFI) clientele would be unable to participate due to their extreme poverty level. Because borrowers do not have physical capital, MFIs focus on using social collateral, via group lending. Group lending encompasses a variety of methodologies, but all are based on the principal of joint liability. In essence, the group takes over the underwriting, monitoring, and enforcement of loan contracts from the lending institution (Wenner, 1995).

Under joint liability each group member is made responsible for the loans of other group members. If one member defaults, the other group members are required to cover the loan from their own resources, and if they do not, they lose access to future loans. It is thus in each member's interest to ensure that the other members pay. Social collateral also works through reputational effects on group members in which repayment of loans is seen by group members as necessary to maintain their social standing in the community (Woolcock, 1999). Goldmark (2001) suggests methods that may help build social collateral, thereby making loans even more secure. Van Tassel (1999) constructs a model and one-period game to determine the optimal group lending contract under asymmetric information. He concludes that agents will always form groups with agents of the same type and that agents' types can be distinguished according to the rate at which they are willing to trade increased joint liability commitments for lower interest rates. Ghatak (1999) concludes that group lending not only increases repayment rates and welfare via social collateral, but also due to peer selection by members of the lending group.

Similar to Ghatak, Islam (1995) concludes that lenders using peer-monitoring systems can charge lower rates relative to conventional lenders and that at the same interest rate, the expected rate of repayment is higher with lower risk when using peer monitoring. Within the lending function of microfinance, it is useful to divide loans into enterprise loans and consumption/emergency loans. As mentioned above, the loan programs typical of MFIs almost entirely consist of enterprise loans. Nonetheless, significant unfulfilled market demand also exists for consumption and emergency loans (Woller, 2002). Those in the microfinance industry who assumed that formal MFIs would drive the traditional money lenders out of business have been shocked to learn that the demand for moneylenders has remained robust, even among clients of microfinance programs. A good illustration is the case described by Perry (2002), in which women moneylenders in Senegal used loans from a local MFI to finance their own money lending businesses.

The microfinance movement in Sri Lanka dates as far back as 1906 with the establishment of Thrift and Credit Co-operative Societies (TCCSs) under the Co-operative Societies Ordinance introduced by the British colonial administration. These were the first credit co-operatives to be established in Sri Lanka. The societies fulfilled a wider role during the early decades of the 20th century, being involved also involved in procurement of inputs and distribution of products, a role eventually taken over by the Multi-Purpose Co-operative Societies (MPCSs) which were originally established during the 1940s as Consumer Co-operative Societies and renamed Multi Purpose Co-operatives in the 1950s. In 1985 the Government established 17 Regional Rural Development Banks (RRDBs) through an Act of Parliament. These institutions were given the task of reaching remote rural areas and smallholders who lacked access to financial services from commercial banks. A significant restructuring and recapitalization took place in 1998-1999 and the RRDBs were consolidated into the six Regional Development Banks (RDBs) which exist today.

The Government plays a key role in the delivery of microfinance services. Various Government initiatives in the microfinance sector have been implemented from time to time. These are addressed in more detail in the section titled "Government Policy". According to the "Mahinda Chintana", the 10 year development framework of the present government, around 65% of microcredit in Sri Lanka is provided through the government. The Samurdhi Development Programme which was introduced in 1995, replacing the previous Janasaviya Programme, is the largest of these initiatives. The Program has a savings and credit component which is administered through the network of 1,038 member-owned, Samurdhi Bank Societies (SBSs).

A remarkably high number of funding agencies support microfinance in Sri Lanka. More than 40 organizations, ranging from public donors, international NGOs, and private investors, are active in microfinance. The largest international funders for microfinance are Asia Development Bank (ADB), Japan Bank for International Corporation (JBIC), the World Bank and USAID.

Data and Methodology

Data were collected from both primary and secondary sources in 2009 and 2010. A set of questionnaire was used in the interview survey among the SHG members of selected microfinance institutions. A purposive random sampling was used in the survey. One hundred members of SHG were interviewed to record their opinions about micro financing program through SHG in the Eastern part of Sri Lanka. The secondary data were collected from selected microfinance institutions. The collected data were analyzed with the help of statistical tools using SPSS software package.

Data Analysis: General information

General information about the SHGs is presented in Table 1.

Table 1:
General information about the SHG

Marital status	Percent	Age of SHG members	Percent
Single	9.0	20-30	2.0
Married	81.0	31-40	13.0
Divorcee	1.0	41-50	22.0
Widow	9.0	51-60	58.0
Total	100.0	>60	5.0
Working level of SHG members		News paper reading	
Self Employed	75.0	Easily	25.0
A Business Owner with At Least One Employee	16.0	Difficulty	12.0
Working With Family Business	9.0	No	63.0
Total	100.0	Total	100.0

It is observed from Table 1 that 9 percent SHG members are single, 81 percent members are married, divorcee is 1 percent and widow is 9 percent. It also shows 58 per cent sample consists of SHG members in the age group 51-60 years. Further, **25** per cent members easily read the newspapers, 12 percent with difficulty read the news paper and 63 per cent were not in a position of reading news paper. Table 1 further indicates 75 percent of members are self-employed, 16 percent of members area business owner with at least one employed, 9 percent of members are working with family business.

Table 2:
Expenditure per month (in Rs) by SHG members and their family

Item	Mean	Standard Deviation
Food	4933.50	1586.927
Education	1582	6888.18
Transportation	298.57	136.493
Saving	359.91	155.654
Housing	-	-
Religious obligation	117.5	55.34
Health	357	205.796
Basic services(energy, water)	1065	1061.38
Loan	742.58	294.445

Table 2 presents the pattern of expenditure of self help groups. 43 percent of members are having enough money to cover the expenditures, 57 percent of members have not enough money to cover the expenditures.

Comparison of Pre-SHGs and Post-SHGs situation: Economic Empowerment of SHGs

It is clear from the study that the average income of the members has increased. In pre SHG situation average monthly personal income of group members were Rs 3154.25 and standard deviation is 1180.55. In the post SHG average monthly income is Rs 5155.25 and standard deviation is 1890.501. Changes in average monthly personal income of the group members in the post SHG situation indicate a high inequality of income distribution among the 80 per cent of group members. 20 per cent of member's incomes are not change in post SHG situation. The analysis of variance shows a high positive correlation of the average monthly personal income of the group members between pre and post- SHG situations ($r = 0.525$ significant level at5%). This indicates that a high average monthly income of a group is benefited more than that of a group with a low average annual income in the post – SHG situation. Thus the benefit of development is not shared equally between the groups.

It is observed that 52% of SHG members keep their saving in hand at home, 30% of members deposit in the bank, 13% members buy jewelry, 3% member lend to relatives or friend and 2% buy large quantity of rice, sugar, etc. In the post-SHG situation 54% group members achieved the ability to save surplus income. Of 54%, 48.1% members save in Samurthi bank, 29.6% in BRAC, 13% in Peoples' bank and 9.3% in SANASA development bank. The average current balance of saving account 3077.67 and standard deviation is 1483.85. Results also indicate that 15% of group members take loan for the purpose of business, 5% of group members are take for production, and 80% of group members are taken for self employed. 62% of loans are provided by government institution and 38% of loans are provided by non government institution. Almost 95% of SHG members get a higher yield by investing in business. The average size of loan is 11980, and standard deviation is 4197.113. In the case of repayment rate is very good among the SHGs. 68% of members repay their loan once a month, 7% of members repay every twice a month, 25% of members pay every week. The average repayment size of loan per month is Rs 742.58 and standard deviation is Rs 294.445.

In the survey, it was observed average rate of interest is between 8%-12%. 58% of members pay 10-12% interest for their loan, 31% members pay 8-10% interest for their loan, and 11% members pay more than 12% interest their loan. On average interest per month is Rs122.52 and standard deviation is Rs 52.042. However, 64% of members face difficulties on repayment of the loan and interest. It is also notable that in order to settle the loan 59% of members are getting money from their small businesses. 35% of members are borrowing, and 6% are settling from saving.

Economic activities

The results indicate that no group members were involved in the economic activities in the pre-SHG situation. They were mainly involved in household affairs. Out of 100 group members 13% are now engaged in the business. 8% are now involved in the production and 79% of group members are involved in self employed. During the field survey the group members told that they are involved either in business or production activities in the post – SHG situation. Each group is thus specialized in a particular occupation, depending upon the local market demand and hence bank loans are granted accordingly

Social empowerment of the SHG members as well as family

There is an improvement in the use of personal deep tube well in the post-SHGs. Only 11% of group members used the personal deep tube well in the pre-SHGs, but in the post-SHG situation 86% have been able to improve their source of drinking water by installing own deep tube well and water supply and 14% of them remains same condition i.e. using the other sources. The correlation between the uses of own deep tube well and water supply in the pre-SHG and the improvement from the other sources to own deep tube well and water supply in the post - SHG shows a moderate positive correlation ($r = 0.312$) at 1% significance level. In the case of sanitation, 11% of group members had personal lavatory with bath room where as 89% used general lavatory (open air) in the pre-SHG situation. But in the post-SHG situation 76% members have been able to set up own lavatory with bath room and 24% are remaining same as before condition. The correlation between personal lavatory with bath room in pre and post-SHG situation indicate a positive correlation ($r = 0.198$) but not significant. 19% of members had better dress quality and 81% were poor quality of dress in pre-SHG situation. On the other hand 85% members are now using the better quality of dress and 15% are still using the poor quality in the post-SHG situation. The correlation of better dress quality of the members between pre and post-SHG situations shows a positive correlation ($r = 0.203$) but not significant. 8% of members listened to the TV/ Radio news and 92% were not in a position of listening TV/ Radio news in the pre- SHG situation. But it was found during the field survey in post-SHG situation that 57% are now listening to TV/ Radio news where as 43% are still remain same as pre-SHG situation. The correlation of the listening to TV/ Radio news between pre and post-SHG situations indicate a positive correlation ($r = 0.340$) at 1% significance level.

Decision making ability of the SHG members:

In the pre-SHG situation 19% members had the ability and 81% had no ability to sale and purchase of goods. But in the post-SHG situation 63% now achieve the ability and 41.8% have no ability to sale and purchase live stock. The correlation of decision making ability regarding live stock sale and purchase between pre and post –SHG situation shows a positive correlation (r = 0.371) at 1% significance level. Also, 13% of members had the ability and 87% had no ability to take decision regarding the transaction involving house hold equipments in the pre-SHG situation. But in the post-SHG situation 64% have achieve the ability and 36% are yet to achieve the ability to take decision regarding transaction involving household equipments. The correlation of decision making ability regarding transaction involving household equipments between pre and post –SHG situations shows a positive correlation (r = 0.290) at 1% significance level.

In addition, 17% of members had the ability to save surplus income and 83% had no such ability in the pre-SHG situation But in the post- SHG situation 54% now achieved the ability to save surplus income and 46% are remain same as before. The correlation of decision making ability regarding control over income and saving between pre and post –SHG situations indicates a moderate positive correlation (r = 0.444) at 1% significance level.

100% members had no control over their loans taken from in formal money lenders in pre-SHG situation. But in the post- SHG situation all the group members have achieved the ability to control over loan. Now they are investing their loan in the economic activities as stated earlier. No group members were involved in economic activities in the pre – SHG. They were mainly involved with household affairs. Most of the SHG members are involved in self employment in post SHG situation.

Although there is high inequality of monthly income distribution among the selected group (coefficient of variation =36.67) but all group members have economically empowered been in the post- SHG situation. High positive correlation in the average monthly personal income (Rs) of the group members between pre and post SHG situations r = 0.525 with 5% significant level. Moderate inequality of the average monthly contribution of the group members to enhance their family income in the post –SHG (coefficient of variation =17.51). High positive correlation in average monthly family income of the group members between pre and post SHG situation r =0.327 at 1% significance level.. Moderate positive correlation between the use of own deep tube well for drinking water in pre-SHG and improvement in post-SHG indicating r = 0.312 with significance level .002. Positive correlation between the using of personal lavatory with bath room in pre-SHG and the same in post-SHG indicating r =0.198 with significance level 0.49. Positive correlation between the better dress quality in pre and post- SHG indicating r = 0.203 and not significant. Positive correlation of listening TV/ Radio news between pre and post – SHG indicating r =0.340 with significance level 0.001. Positive correlation of listening TV serial / cinema between pre and post –SHG indicating r = 0.259 at 1% significance level.. Positive correlation (r = 0.419) of decision making ability regarding the house repair and construction of the group members between pre and post SHG at 1% significance level. A positive correlation (r = 0.371) of decision making ability of the group members regarding the live stock sale and purchase between pre and post SHG at 1% significance level.. A positive correlation (r = 0.290) of decision making ability of the group members regarding the transaction involving household equipment between pre and post SHG at 1% significance level.. A moderate positive correlation (r = 0.444) of decision making ability of the group members to control over income and savings between pre and post SHG at 1% significance level.. 100% achievement has been made by the group members regarding control of their loans taken from bank. In the post-SHG situation, people invest their loans in the productive economic activities.

Findings and Conclusion

This section reveals the findings which were identified from data analyses. Most of the SHG members (81%) are married and 58% members are belong to 51 -60 years age group. Most of the SHG members (63%) do not read the news papers. However, 100% of SHG members are educated at primary level. SHG members (47%) live with up to three members. The members do not work in public or private enterprise or on their own business. But the 75% of members are self employed and they do not involve in other income generating activities.

From the study, it could be concluded that along with economic empowerment, group members are well being empowered socially in the post-SHG, which ensures the optimum standard of living of the group members. One of the important aspects of microfinance programe is to establish rights, status and decision making ability of poor people. It has been found that only a few group members had decision making ability in the family in the pre –SHG. But microfinance programme has changed the scenario and able to fulfill the objective of the programmes. During the field survey the group members indicated that they were dependent on the informal money lenders in the pre-SHG. Later, they are freed from the clutches of informal money lenders through microfinance programme.

However, rural women have been empowered economically as well as socially through the microfinance programme. But they have not been able to earn income equally in the post-SHG because of lack of organized local markets. In this aspect government should intervene and assist them to market their products. The study has also identified that a higher percentage of female members are not still covered by microfinance programme. They are still engaged in household affairs only. So, micro finance institutions should encourage and incorporate them immediately to develop their socio-economic condition. In anticipation, this research may encourage those government as well as non- government organizations, are working in this field in Sri Lanka to improve the socio-economic condition of the poor people in the rural area.

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The Effect of Microfinance Factors on Women Entrepreneur's Performance in Batticaloa District-Special Reference to SEEDS (GTE) Ltd

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Abstract: Women play a crucial role in the economic development of their families and communities but certain obstacles such as poverty, unemployment, low household income and societal discriminations mostly in developing countries have hindered their effective performance of that role. The objective of this study is to examine the effect of microfinance on women entrepreneurs' socio economic performance in Batticaloa. The results indicate that the microfinance factors positively and moderately affect the women entrepreneurs' socio economic performance. The economic benefits of microfinance on women entrepreneurs have potential effect on the economic development. In terms of development and social impact, the microfinance factors allow significant improvement in quality of life on women entrepreneurs in Batticaloa District. Microfinance factors allows the poor people to better manage spending, which often generates saving ,and this provides better standards of living to their family, and dependents in terms of housing nutrition, health and education. New Microfinance system promotes a sense of entrepreneurship among women.

Keywords: Microfinance, women entrepreneurs, performance, Batticaloa

Introduction

Micro finance is often considered one of the most effective and flexible strategies in the fight against global poverty. It is sustainable and can be implemented on the massive scale necessary to respond to the urgent needs of those who are living on less than $1 a day, the worlds poorest. Practically twice in a year small entrepreneurs obtain micro credit from various Micro finance institutions. This continual reinvestment multiplies the impact of each dollar loaned.

The microfinance industry has long recognized women as a force in international development and as a market worthy of attention, but it could do even better if it addressed ongoing barriers to women's participation and empowerment. Women business owners often are associated with the best credit risks and are more likely than men to funnel earnings in to their children's education.

Despite the crucial role of women entrepreneurs in the economic development of their families and countries; it is, however, discovered that women entrepreneurs have low business performance compared to their male counterparts (Akanji, 2006); and this is caused by factors which normally affect entrepreneurial performance. Such factors include lack of credit, saving, education or training, and social capital (Shane, 2003).

Women entrepreneurs, especially in developing countries lack training (IFC, 2007) and entrepreneurial process is a vital source of developing human capital as well as plays a crucial role in providing learning opportunity for individuals to improve their skills, attitudes and abilities (Brana, 2008; Cheston & Kuhn, 2002; Shane, 2003). Again, the effect of training on women entrepreneurs' performance, especially in developing countries, has not been adequately addressed in the literature. Taking cognizance of the peculiar situations of most women in developing countries in terms of poverty, low educational levels and other societal discriminations (Porter & Nagarajan, 2005; Roomi & Parrot, 2008); training is a very important micro-finance factor for women entrepreneurs as it would provide the skills and experience needed for business (Akanji, 2006, Cheston & Kuhn, 2002; Kuzilwa, 2005).

Entrepreneurship theory (Shane, 2003) stated that entrepreneur's ability to discover and exploit opportunity for entrepreneurial activity differs between individuals and depends on individual's attitude towards risk-taking. For instance, a risk-averse individual is less likely to exploit entrepreneurial opportunity (Shane, 2003). As such, a person may not search for or discover entrepreneurial opportunity if he/she has a negative attitude towards risk-taking. In the same vein, an individual may have an innovation business or service idea, and great likelihood to access micro-finance but may not utilize the opportunity if he/she fears risk. Behavioral theories such as the Theory of Planned Behavior, specifically the Intention Theory (Ajzen, 1991) concluded that attitude towards behavior leads to intention which eventually leads to actual behavior. Other supporting behavioral theorists (e.g Crisp & Turner, 2007) found that attitude and behavioral intention are positively related.

SEEDS it could be defined as Sarvodaya Economic Enterprise Development Services Guarantee Limited was established in 1987 in order to provide a wide range of micro finance services to the people who were encaged with self employment activities in Sri Lanka. In 2002 SEEDS expanded its micro finance service to Batticaloa district to strength the vulnerable community in rural area. SEEDS obtained a significant experience that the small enterprise can be sustainable with law investment and higher human resource there by offering opportunities for long term employment.

Literature Review

Evidences from literature show that adequate credit aids entrepreneurship performance (Gatewood et al., 2004; Kuzilwa, 2005; Lakwo, 2007; Martin, 1999; Ojo, 2009; Peter, 2001). The result of such credit assistance to entrepreneurs, especially women, is often seen in improved income, output, investment, employment and welfare of the entrepreneurs (Kuzilwa, 2005; Lakwo, 2007; Martin, 1999; Peter, 2001). Credit had positive impact on business performance of entrepreneurs in Kenya (Peter, 2001), income and wellbeing of women in Uganda (Lakwo, 2007). Credit and savings had positive impact on performance in Nigeria (Ojo, 2009). Credit and training had positive impact on women entrepreneur's performance in Tanzania (Kuzilwa, 2005). Savings acts as insurance for credit since women entrepreneurs lack physical collaterals (Akanji, 2006; Mkpado & Arene, 2007; Versluysen, 1999). Savings has been found to have positive effect on enterprise productivity in Nigeria (Ojo, 2009).

Research Problem

Micro finance is important to reducing poverty in rural economy. Especially women's contribution is essential to house hold income. Compare with other district in Sri Lanka, a significant number of women lost their spouse due to the ethnic war and natural disaster and several NGOs focus to increase the income of the women headed families through micro finance service, even though they not yet achieved expected out come. The Problem of this study is the effect of microfinance on women Entrepreneur's Performance.

Objectives

1. Identify the factors of microfinance focusing the women entrepreneurs
2. Find out the activities of SEEDS (GTE) Ltd in order to promote women entrepreneurship through micro finance service.
3. To examine the effect of microfinance on women entrepreneurs' socio economic performance in Batticaloa.

Methodology

In this study, the data were collected as primary as well as secondary. the primary data were collected from 100 sample household surveys using structured questionnaires and interviews .The samples were selected from women entrepreneur in batticaloa district. Thus are hundred (100) women entrepreneurs who were getting microfinance from SEEDS (GTE) Ltd.

The sample were analyzed by univariate and bivariate analysis consist of mean, standard deviation, p-value, correlation and co-efficient. The result gathered through the SPSS have presented in the charts and tables. Likert scale rating (from 1-5) were used to measure the variable through relevant statement by descriptive analysis.

Results

Table 1.1: Overall Mean & Standard Deviation of Micro Finance System

Variables	Mean	Std. Deviation
Growth of business	3.01	0.541
Utilization of loans	3.20	0.620
Utilization of profits	2.02	0.492
Disposable income	2.90	0.689
Savings	2.56	0.538
Food and consumption level	3.01	0.541
Educational level	3.20	0.752
Livelihood improvement	2.28	0.668
Micro finance System	**2.97**	**0.171**

The table 1.1 shows the overall impact of micro finance on women entrepreneur's performance.

Growth of the business

Information regarding Growth of the business in small business enterprises was measured through five indicators which are expected income, expansion of the business, employment opportunity, new product development and use of new technology and equipment. 14% of the respondents feel the variable of growth of business by using the microfinance is in low level, 71% of respondents feel it in moderate level and 15% feel it is in high level. The variable of growth of business gets a mean value of 3.01 as moderate level. Expected income and expansion of the business are showing 3.46 mean values, 50% of respondent have agreed that they are in moderate level of these two variables. Employment opportunity gets 2.05 mean value it shows low level of opportunity for new employment. New product gets 3.00 mean value it shows moderate level in new product development.

Utilization of loans

As consider the mean value of utilization of loan is 3.20. It shows moderate impact of microfinance. Usage of loans indicates 3.94. Because of 94% of respondent were using their micro credit for the specific purpose which they mentioned in the proposal. But satisfaction of loan shows as 2.05 mean value. Because of the amount of loan disbursed by micro finance institution was insufficient.

Utilization of profits

The variable of utilization of profit gets a mean value of 3.02 even though out of three indicators of utilization of profit not get the same mean value. The indicator of sufficient of profit gets 3.00 mean values and the indicator of monthly installment gets 3.95. Compare above two indicator loan repayment of profit utilization is higher than other factor. If we consider invest part of profit it shows 2.05 mean values showing as lower than other two factors it mean small entrepreneur were awarded that they should pay the monthly installment as regularly from the profit.

Disposable income

Using likert scale, impact of micro finance focusing on women entrepreneur found to have a moderate impact on the disposable income after the micro finance loan service. Mean value is 2.90 which is in the moderate range. Level of income is one of the three indicators of value of income gets 3.00 mean value it shows respondents have agreed level of disposable income gradually increased. Family income gets mean value of 2.55 which indicates there were no major effect in the family income after micro finance loan service. However family expenses moderately covered by disposable income which gets 3.00 mean value.

Savings

As we know most of the micro finance institution attempt to mobilize the savings or family savings in the rural economy according the micro finance institutions add the saving is one of the eligible criteria for loan applicants those who are in the project area. 2.56 mean value shows for saving variable which comes to the moderate range. Savings in income gets 2.99 mean value and 51% respondents have agreed that at the meant time regularly savings also gets 2.54 because of they were instructed by the micro finance institution regarding the compulsory savings. Considering the children saving gets mean value 2.50 which mean 50% respondent agreed that the income not sufficient to saving in the children account. Another 50% respondents have agreed that they would like to deposit small part of the income to their children's account.

Unexpected expenses shows as 3.00 mean values which explain the respondents were using the income to face the unexpected incident or expenses such as deceases and natural disaster as moderate range .Increasing of assets is the one show low means value 2.05 out of five indicators in the saving variable which indicates there was no significance changes in the assets which means the family income is not being used to increase the assets.

Food and consumption level

Satisfaction of family food, food nutrition and children food nutrition are taken as indicators of food and consumption level. Satisfaction of family food gets 3.95 mean values which is the higher value compare with other two factors. 60% of respondent have accepted that they have spent for the family food after start a small entrepreneurship.

Educational level

Education level include following indicators children school attending, parents motivation skills and education level of children. And overall mean value of education level gets 3.20 as moderate range . School attending shows 3.45 mean value and also motivation skills get same value 3.45, those mean values indicates micro finance service contributes to children education through income generation. But the education level gets 2.55 mean values which explain quality of education and infrastructures were insufficient.

Other Livelihood improvement

Other livelihood improvement variable includes cloths and jewel, medical needs, social and religious event, life insurance policy, and housing development. 2.28 mean value shows the overall indicators. Cloths and jewels gets 2.05 mean value in which there was no considerable positive change in the indicators. As we know the rural level population depends on government hospital and free clinic for their medical needs that what medical need shows as 2.50 mean values. Social religious events indicators also get 2.50 mean values as well. Life insurance policy gets mean values 2.05 it mean 51% of respondents have dissatisfied. Housing development gets mean value 2.05 it mean 52% respondents have disagreed because of the big part of income which obtained from their small enterprises spent for family expenses apart from housing development.

Conclusion and Recommendation

Micro finance system should consider effective business proposal when they disburse the loan. Feasibility study has to be done for expansion of the business. The business proposal should financially viable and practically suitable. The women entrepreneurs have to be trained in order to obtain multi skill, such as technical skill (especially job related Technique), financial management training, marketing and exposure visit.

Post loan service will be carried out by MFIs in order to ensure the utilization of loan. It can be done by the close monitoring, partial loan disbursement, supplying material and conducting awareness program. MFIs can get assistance from various government and non government organization in order to aware the rural community regarding nutrition food and consumption. Such as School level awareness program, Special workshop for feeding mothers, Special loan for milking cows and country poultry and Attach the child wealth rank records with loan application.

MFIs can introduce various loan products to improve the children education of their clients, Such as students progress report has to be attached with loan application for loan interest loans, gifts and seasonal promotional items have to be issued the parents those who encourage their children good achievement as well as regular school attendance. MFIs must determine the loan size accordance with number of student in the family.

The study confirmed that most of the women entrepreneurs have moderately improved their socio-economic conditions through micro finance system.. Moreover, poor livelihood assets, vulnerabilities and weak transforming structures and process are identified as constraints for sustainable livelihoods of women entrepreneurs and associated group. It is therefore necessary to provide institutional, organizational, and government support for sustainable women entrepreneurship.

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Determining Factors on Applicability of the Computerized Accounting System in Financial Institutions in Sri Lanka

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Abstract : This research aimed to measure the determining factors on applicability of the Computerized Accounting System (CAS) and to examine the relationship among the factors influencing of CAS in the Financial Institutions in Sri Lanka. By using multiple regression analysis, authors found that there is a positive impact with positive statistical significance of human resource and infrastructure as independent factors on the dependent variable, there is a negative impact of the cost on the application of the CAS and there is no statistically significant impact of administrative performance on the applicability of the CAS to Financial Institutions in Sri Lanka.

Keywords: Computerized Accounting System (CAS), and Financial Institutions

Introduction

An adoption of Computerized Accounting Systems (CAS) becomes vital and may well be the determining factor for the survival or success of an entity, especially Financial Institutions. The companies' managers and owners require update, correct and real time accounting information in order to survive in market. It is very desirable for financial information to have all the qualitative characteristics, but qualitative characteristics and especially two characteristics of "relevancy" and "reliability" are often inversely correlated. Thus increasing one will decrease the other one and that has led to the fact that all qualitative characteristics of accounting information cannot be gathered together at same time. CAS is the application of the computer based software used to input process, store output accounting information. The application is to support advancing technologies that enable firms to use computer programmes to perform tasks that were previously done manually. The need for computerization of accounting system is due to increase in the number of transactions as a result of the policy of continuous expansion of the business. It is very important to computerize its systems and different functions as it considers two mandatory rules that govern its operations, technology must benefit your business and if technology does not benefit your business then you don't need it. For this reason, the accounting section which the firms considers very important is highly computerized for the purpose of improving on record keeping, proper maintenance of different loss of cash or loss of accounting records.

A more simplistic view is presented by Klien (2002) stressed that a business either small or big business must have equivalent accounts namely, the income, capital, expenses and liabilities. Various software package introduce such as interface, wizards file, icon and pre built templates for multipurpose. It can be memorizes by saving the data and the forms that been used regularly. By using this feature, record keeping will be consistent and also save time, Davis and Dunn (2005).

The purpose of this study is to determine the impact of factors affecting the applicability of the Computerized Accounting System in the Financial Institutions in Sri Lanka.

Research Problem

The problem of the study emerges that the used accounting system in the most of the firms is a conventional one, and must operate a new computerized accounting system, so as to keep abreast of developments of CAS. The researchers found through personal interviews and previous studies to find out some of the obstacles that prevent the possibility of applying the CAS in the Financial

Institutions such as human resource, administrative performance, cost and infrastructure, where some other previous studies took some of the obstacles that prevent the possibility of applying a CAS in the other business sectors such as infrastructure and human resource. So the questions of this study emerged in order to help solving the problem of the study depending on the following questions:

Research Questions

This study aims to answer the following research questions:

- What variables determine the decision of Financial Institutions in Sri Lanka to adopt CAS?
- Is there any relationship between the determining factors and the applicability of the CAS?

Objectives of the study

This study attempts to achieve the following objectives:

- To measure the factors influencing the CAS in the Financial Institutions in Sri Lanka.
- To examine the relationship among the factors influencing of CAS in the Financial Institutions in Sri Lanka.

Significance of the study

The significance of the study is came from theoretical and practical contribution through revealing the importance of using the CAS in the Financial Institution in Sri Lanka, so the decision-makers keep pace with technological developments in many Financial Institutions in the world. The contribution of this study is to encourage the decision-makers using the CAS will lead to a transition from scarcity of information to the state of abundance of information, as well as to the quality of appropriate information that give objectivity and integrity. While the theoretical contribution of this study used new variables that the previous studies didn't use in measuring the dependent variable such as administrative performance and cost. This study will also help in having the possibility to implement a CAS in the Financial Institutions, because of the saving of time, effort and cost, it will also help to correct the obstacles that hinder the computerization of the accounting system in the Financial Institutions. The importance of this study also came through what confirmed on the need to keep pace with the technological developments in accounting, as considered a system of information specialized in generating the informational data of an Financial Institutions.

Methods and Materials

Conceptual Model

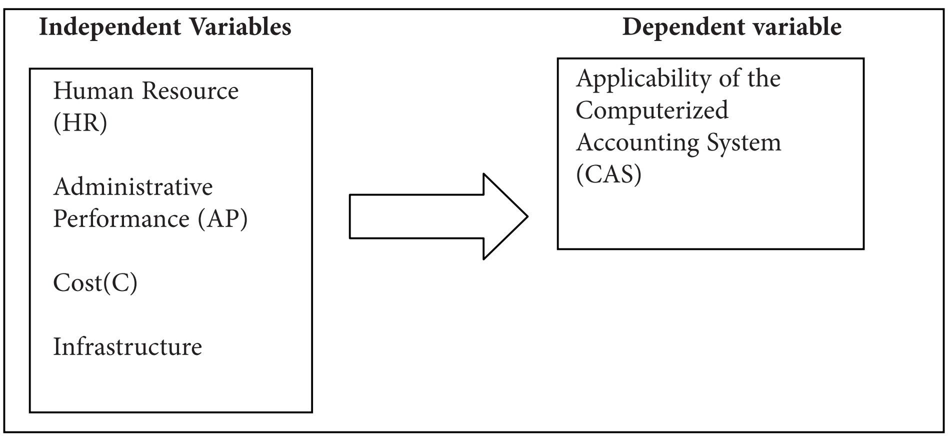

Figure 1: Conceptual Model

Hypotheses of the study

Based on the research questions of the study these hypotheses have been formulated as the following:

H_1: There is a positive impact of human resource on the CAS in the Financial Institutions in Sri Lanka.

H_2: There is a positive impact of administrative performance on the CAS in the Financial Institutions in Sri Lanka.

H_3: There is a positive impact of cost on the CAS in the Financial Institutions in Sri Lanka.

H_4: There is a positive impact of infrastructure on the CAS in the Financial Institutions in Sri Lanka.

Variables of the study

Human resource, administrative performance, cost and infrastructure have been employed as independent variables whereas applicability of the CAS has been employed as dependent variable.

Population and sample

100 staff who are using CAS are surveyed of three different types of Financial Institutions such as banking sector, non-banking Financial Institutions, and insurance companies which are the listed Public Limited Companies in Colombo Stock Exchange based on the random sampling basis.

Sample size

Sample	Number
Banking sector	50
Non-banking Financial Institutions	30
Insurance companies	30
Total	110

This study revealed that from the 110 questionnaire, only 100 complete sets for analysis. Response rate was presented 91%.

Model

Following multiple regression model has been formulated for the analysis of this study.
Eq.1
Applicability of the CAS = $\beta_0 + \beta_1$ HR + β_2 AP + β_3 C + β_4 I
Where
HR: Human Resource, AP: Administrative Performance, C: Cost and I: Infrastructure

Method of data collection

This study is mainly based on primary data. Structured survey questionnaires have been used. In the questionnaire the perception has been calculated by 5 point Likert Scale where 5= very important and 1= very unimportant. This study will also be adopted on personal interviews with many of the staff of these Financial Institutions.

Results and Discussion

Correlation analysis

No variable was excluded due to the lack of higher link problem between the independent variables with each other (Multicollinearity) and that, as shown in Table 1. The bilateral test analysis also confirmed that correlation between all independent variables with the dependent variable is high and statistically significant as shown in Table 1

Table 1: Pearson Coefficient

Variables	Applicability of the Computerized Accounting System	Human Resource	Administrative Performance	Cost	Infrastructure
Human Resource (HR)	0.7230	1.0000	0.7114**	0.4590	0.8123**
Admin Performance (AP)	0.0812	0.7114**	1.0000	0.5210	0.8340
Cost (C)	0.3420	0.4590	0.5210	1.0000	0.7666
Infra	0.5712	0.8123**	0.8340	0.7666	1.0000

Correlation is significant at the 0.01 level (2-tailed)
Source: *Calculations are based on data*

Regression analysis

Table 2: Multiple linear regression – output 1

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
	10.982 (A)	0.964	0.952	0.06752

Source: *Calculations are based on data*

Regression model analysis showed that the relationship between applicability of the CAS and human resource, administrative performance, cost and infrastructure had explained 95.20% of the variance in the factor influencing the applicability of the CAS in Financial Institutions in Sri Lanka.

In Table 2, the study found that the independent variables combined were with relationship with the dependent variable of 0.982 which is a strong positive relationship, in addition to the contribution of all independent variables to the dependent variable was by R. Square 0.964, this indicates that the independent factors combined explain the rate of 0.964 of the change in the behaviour of the dependent variable, which considered a high percentage, while the statistical independent variables represented in the human resource, cost and infrastructure amounted to the impact of these variables combined on the dependent variable through the Adjusted R Square 0.952.

Table 3: Multiple linear regression – output 2

Anova (b)

Model		Sum of squares	df	Mean square	F	Sig
1	Regression	8.123	5	1.652	349.69	0.0000 (a)
	Residual	0.434	94	0.005		
	Total	8.557	99			

a. Predictors: (constant)
b. Dependent variable: applicability of the CAS

Source: *Calculations are based on data*

In term of overall significant of this model, Table 3 shows that significant model emerged (F 5, 94 = 349.69, $p<0.001$

Table 4: Multiple linear regression – output 3

Coefficients (a)

	Collinearity VIF	**Statistics Tolerance**
Constant		
Human Resource (HR)	1.624	0.666
Admin Performance (AP)	1.682	0.599
Cost (C)	2.576	0.368
Infrastructure (I)1	4.059	0.257

a. Dependent variable: applicability of the CAS
Source: *Calculations are based on data*

Table 5: Multiple linear regression – output 4

Coefficients (a)

	Un Standardized Coefficients Standard error	**Un Standardized Coefficients B**	**Standardized Coefficients B**	**T**	**sig**
Constant	0.118	0.665		5.522	0.000
Human Resource (HR)	0.017	0.293	0.420	15.433	0.000
Admin Performance (AP)	0.023	0.015	0.025	1.267	0.235
Cost (C)	0.024	-0.276	-0.424	-11.089	0.000
Infrastructure (I)	0.035	0.138	0.176	3.444	0.001

a. Dependent variable: applicability of the CAS
Source: *Calculations are based on data*

In this study, the relationship between the independent variables and dependent variable from regression analysis is:

Equation 1
Applicability of the Computerized Accounting System (CAS)
= 0.420 HR + 0.025 AP – 0.424 C + 0.176 I
(15.433) (1.267) (11.089) (3.444)
Where t value is in parentheses.

This indicates that applicability of the CAS will increase by 0.420 when Human resource goes up by one, increase by 0.025 when administrative performance goes up by one, decrease by 0.424 when cost goes up by one and increase by 0.176 when infrastructure goes up by one. In conclusion the findings that have been gathered revealed the variables have positive and negative influence the applicability of the CAS in Financial Institutions in Sri Lanka.

Further, results of multiple regression for the entire independent variables, indicates that some independent variables have positive correlation and statistically significant with the dependent variable and these variables are:

Human Resource: There is a positive correlation between the human resource and the application of the computerized accounting system at a significance level equal to 0.000. The results of the analysis showed that the strength of the impact of the human resource on the dependent variable was equal to 0.293.

Infrastructure: There is a positive correlation between the infrastructure and the application of the computerized accounting system at a statistical significance level equal to 0.001, where the magnitude of the effect of this variable on the dependent was 0.138.

The results of multiple regression showed as stated in Table 5 that the independent variable (cost) of a negative relationship with the dependent variable. The power of the impact of this independent variable is -0.276 While the results of multiple regression confirmed that the independent variable (administrative performance) has a weak correlation and not statistically significant where the strength of the relationship is 0.023 and non-statistical significance amounted to 0.235.

Discussion

The study hypotheses were tested based on a multiple regression model, which was designed for this purpose that included the application of the CAS in the Financial Institutions in Sri Lanka as a dependent variable, in addition to the factors affecting the application of the CAS associated with these Financial Institutions as independent variables.

Testing of the Hypotheses

To test the first hypothesis which stipulates that there is an impact of statistical significance for the human resource on the CAS to the Financial Institutions in Sri Lanka, and upon the results of multiple regression analysis that accepts the H_1 hypothesis, when the level of significance equal to 0.000. This indicates that there is a positive correlation between human resource on the CAS to the Financial Institutions in Sri Lanka, and whenever the human resource was well prepared in terms of training, practical and knowledge and in the term of using this system, that leads to an increased desire in the application of this system to the Financial Institutions in Sri Lanka with the amount of 0.293.

To test the second hypothesis which stipulates that there is a statistically significant impact of administrative performance on the CAS Financial Institutions in Sri Lanka. And based on the regression results which rejects the H_2 hypothesis and that because of the weak presence of positive correlation that is not statistically significant between the administrative performance of the Financial Institutions in Sri Lanka and the applicability of the CAS in these Financial Institutions at the level of significance equal to 0.235 and this result confirms that the administrative performance has no importance in influencing the transition from the conventional accounting system to a new CAS and that from the viewpoint of the study sample.

To test the third hypothesis which stipulates that there is an impact of statistical significance for the cost of the CAS in Financial Institutions in Sri Lanka. The study found through a multiple regression that there is a negative impact of the cost of the applicability of the CAS to the Financial Institutions in Sri Lanka with the amount of -0.276 and at the level of statistical significance 0.000 Thus, the study accepts the H_3 hypothesis, where these findings demonstrate that if the cost increased, this will lead to dissatisfaction in shifting from the conventional accounting system to the CAS with the amount of -0.276 and vice versa.

To test the fourth hypothesis which stipulates that there is no statistically significant impact of infrastructure on the CAS in the Financial Institutions in Sri Lanka. The study found through multiple regression that there is a positive impact of infrastructure on the CAS in the Financial Institutions in Sri Lanka amounted 0.138 and at statistical significance level of 1.00 Thus, the study accepts the H_4 hypothesis. Where these results confirm that as the infrastructure of the Financial Institutions was well prepared so the applicability of the CAS will be easier, the provision of infrastructure in the Financial Institutions in Sri Lanka will lead to the applicability of the CAS for these Financial Institutions with the amount of 0.138.

Conclusion

There is a positive correlation statistically significant between human resource and infrastructure in one hand and between the applicability of the CAS in the Financial Institutions in Sri Lanka.

There is a negative correlation statistically significant between the cost and the applicability of the CAS in the Financial Institutions in Sri Lanka.

It has been found that there is a weak positive correlation which is not statistically significant between the administrative performance and between the applicability of the CAS in the Financial Institutions in Sri Lanka.

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Value Relevance of Accounting Information: Evidence from Sri Lanka

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Abstract: This paper investigates the value relevance of accounting information in Sri Lanka. The study uses book value per share (BVPS), earrings per share (EPS) and operating cash flow per share (OCFPS) as the independent variables and market value per share (MVPS) as the dependent variable. Sample of the study includes 310 firm-year observations from 5 largest industry sectors. Ohlson's (1995) price model and an alternative model with operating cash flow per share are employed. Study finds that BVPS, EPS and OCFPS all have a positive and statistically significant relationship with market value per share. This finding proves that the accounting information is value-relevant in Sri Lanka. Comparison of Ohlson model with the alternative model developed in this study reveals that both models are value relevant to Sri Lankan data. However, the alternative model with operating cash flow per share is more informative than the original Ohlson's (1995) price model in Sri Lanka.

Keywords: Accounting Information, Book Value per Share, Earnings per Share, Operating Cash Flow per Share, Value Relevance

Introduction

The main objective of accounting information through financial statements is to provide information about the financial position and performance of an entity that is useful to stakeholders in making economic decisions. Investors are among the most important users of such information. Since it is concluded that if financial statements meet investors need, it will also meet most of the needs of other users. High quality accounting information is a necessary for well functioning capital market and the economy as a whole. Hence, it should be of considerable importance to investors. A basic attribute of accounting quality is value relevance that is the relevance of accounting information for equity valuation.

Research on the relations between capital markets and financial statements is generally referred to as capital market-based accounting research (CMBAR). Modern CMBAR originated with Ball & Brown and Beaver in 1968 (Beisland, 2009, p. 7). One of the main purposes of CMBAR is to examine the value relevance of accounting information. According to Beisland, the value relevance research empirically investigates the usefulness of accounting information to stock investors. Accounting information is denoted as value relevant if there is a statistical association between the accounting numbers and market values of equity (Beisland, 2009, p. 7). Empirical research on the value relevance has its roots in the theoretical framework on equity valuation models. Ohlson (1995) depicted in his work that the value of a firm can be expressed as a linear function of book value, earnings and other value relevant information (Vishnani & Shah, 2008, p. 85). Ohlson model stands among the most important developments in capital market research in early 1990s and provides a foundation for redefining the appropriate objective of valuation research (Bernard, 1995 as referenced in Dung, 2010, p. 2).

There are a number of international studies conducted on value relevance of accounting information and most of them are based on developed and efficient capital markets in the world. Most researchers in the field of value relevance studies have predominately used data from the United States (Rahman and Mohed-Saleh, 2008, p. 78). A very few researches (Perera & Thrikavala, 2010; Pathirawasam, 2010) were conducted using Sri Lankan data. Value relevance studies from different countries often show contradictory results, partly because accounting regulations differ between countries. Value relevance studies in Sri Lanka reveal that the accounting information is value relevant. However, the development in the field of accounting is rapid and there is a need for new research using fresh data.

The present study employs Ohlson's (1995) price model as the basis to investigate the usefulness of accounting information in equity valuation in comparison with the total information in the market place using the data of listed companies in the Colombo Stock Exchange (CSE).The study is based on the following three main objectives (a) to explore the value relevant variables among the financial related variables; (b) to identify the most significant value relevant variable among the financial related variables, and (c) to determine the best model for explaining the value relevance of accounting information.

Literature review

Brief and Zarowin (1999) compared alternative valuation models that relate share price to book value and earnings and to book value and dividends with USA data from 1978 to 1997. They found that, for dividend paying firms on the whole, book value has greater explanatory power for price than either earnings or dividends. However, the combination of book value and dividends has virtually identical explanatory power as book value and earnings. Moreover, earnings and dividends alone have about the same individual and incremental explanatory power. For firms with transitory earnings, dividend has greater individual explanatory power than earnings, but once again book value and earnings and book value and dividends have about the same explanatory power. Suwardi (2009) investigated the nature of the relationship between accounting numbers and share prices of firms listed on the Jakarta Stock Exchange (JSX) for the period 1992-2001. The results of this study showed that the book value of net assets seems to have a stronger relationship with market value. Abayadeera (2010) tested the value relevance of financial and non-financial information in high-tech industries in Australia. The overall results provided evidence that book value was the most significant factor and earnings were the least significant factor in deciding share prices in high-tech industries in Australia.

Oyerinde (2009) examined the value relevance of accounting information in the Nigerian Stock Market. His model used average price per share as dependent variable with EPS, earnings yield and ROE as independent variables. The sample consisted of top 30 companies from 2001 to 2004 in Nigerian Stock Market. The author found that the relationship between share price and EPS was high but the ROE was very low. However, combined model of all the variables reflected very high level of R^2 value of more than 95% each year. Perera and Thrikawala (2010) examined the value relevance of accounting information on Colombo Stock Exchange (CSE) taking 6 commercial banks listed in CSE from 2005-2009. Using the model used by Oyerinde (2009), they found that EPS and ROE were significantly related with share price and only EPS reflected higher explanatory power on market price. Pathirawasam (2010) investigated the value relevance of accounting information at Colombo Stock Exchange (CSE) in Sri Lanka. His study used earnings per share (EPS), book value per share (BVPS) and return on equity (ROE) as the independent variables and market price per share (MPS) as the dependent variable. Sample of the study included 129 companies selected from 6 major sectors at CSE. Cross sectional and time series cross-sectional regressions were used for the data analysis. Study found that EPS, BVPS and ROE had positive value relevance on market value of securities. However, the explanatory power of combined variables was below average. Value relevance of EPS and ROE had slightly increased when the sample included only accounting variables with positive values. But, BVPS did not comply with that finding. EPS was the most valve relevant variable out of the three variables, in Sri Lanka.

Pirie and Smith (2008) studied the relationships between stock prices and accounting information in

Malaysia. They found that current book values and current earnings each have incremental explanatory power for share prices beyond the other variable. This has implications for investors and managers, because it suggests that they should consider both the balance sheet and the income statement in their decision-making processes rather than concentrating on one or other of the statements alone.

Durán et al. (2007) examined the value relevance of Ohlson model with Mexican data. The accounting variables used were from 145 companies listed in the Mexican stock market from 1991 to 2003 (1,046 firm-year observations). Study found that the alternative model with operating cash flow per share provides extra information and better statistics than the original Ohlson model. Bo (2009) explored an empirical study on information content of accounting earnings and cash flow using the financial data of Chinese listed companies in manufacturing industry from 2003 to 2005, adopting price model and found that accounting earnings and cash flows all have relevant relations to stock prices; however, the relevance between cash flow and stock price was stronger, and cash flows had higher information quality.

Methodology

Sample and data collection

The sample of the study consists of 65 listed companies from five largest industry sectors excluding Bank, Finance & Insurance sector for the period of 5 years from 2006 to 2010. The selection of the sample is based on the following criteria.

1. The sample companies selected from 5 largest sectors excluding bank, finance and insurance sector. The sample selected from largest sectors, because these sectors would contribute significantly to the economy. Bank, Finance & Insurance sector is excluded from the sample even it is a largest sector in Sri Lanka. Because the accounting practices for the financial companies are different from other companies.

2. Companies, whose financial year ends other than 31st March of each year excluded from the sample. Most of the companies in Sri Lanka have their financial year end on 31st March. Therefore, companies with financial year end 31st March are selected for this study. This criteria is followed because, it is necessary to have common period for the calculation of market values accumulation across all the sample companies.

3. In order to have a balanced panel, companies those do not have financial statements for all sample years from 2006 to 2010 are excluded from the sample.

4. Companies without all required data such as market value per share, book value of equity, reported earnings and operating cash flows etc. are excluded.

Tab. 1 shows the number of sample companies under each selected industry sector.

**Table 1:
Classification of the Sample**

Industry Sector	Sample (Number of Companies from each Sector)
Beverage Food & Tobacco	9
Hotels & Travel	22
Land & Property	9
Manufacturing	17
Plantations	8
Total	65

All data used in this study such as market value per share, book value per share, earnings per share and operating cash flow per share are drawn from the financial statements of companies which are available in the CSE's website.

Conceptual framework

Based on the literature review it is evident that the accounting information has an impact on the value of the firm. Previous researchers identified some important value relevant accounting information in their studies. Most of the studies used balance sheet and income statement as the source of accounting information. Currently, however, the main financial statements include comprehensive income statement, statement of financial position and cash flow statement. Thus the present study uses the model that includes all of the main financial statement measures as follows (Fig. 1):

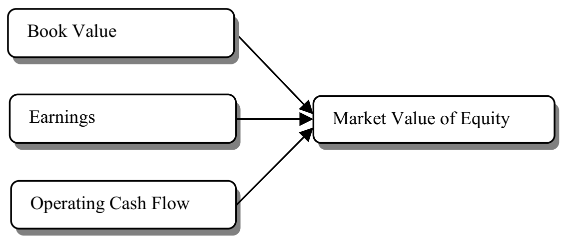

Figure 1: Conceptual Framework

Hypotheses

Based on the conceptual framework, the following hypotheses are developed in order to achieve the aim of this study.

H1: There is a positive relationship between book value and market value of equity.
H2: There is a positive relationship between earnings and market value of equity.
H3: There is a positive relationship between compound of book value and earnings, and market value of equity.
H4: There is a positive relationship between operating cash flow and market value of equity.
H5: There is a positive relationship between compound of book value, earnings and operating cash flow, and market value of equity.

Research model

This study uses Ohlson's (1995) price model as a basic model to examine the value relevance of accounting information. According to the literature review, the Ohlson's price model has been widely used in the previous studies. The model expresses the value of firm's equity as a function of its earnings and book value as follows:

$$P_{it} = \beta_0 + \beta_1 BV_{it} + \beta_2 E_{it} + e_{it}$$

Where:

P_{it} = Stock price of firm *i* three months after the financial year-ending in year *t*.

BV_{it} = Book value per share for firm *i* at the end of period *t*.

E_{it} = Reported earnings per share for firm *i* during period *t*.

e_{it} = Other value-relevant information of firm *i* for period *t*.

Based on the above Ohlson's (1995) price model the following alternative model with operating cash flow per share is developed for this study.

$$MVPS_{it} = \beta_0 + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \beta_3 OCFPS_{it} + e_{it}$$

Where:

$MVPS_{it}$ = Market value per share of firm *i* three months after the financial year-ending in year *t*.

$BVPS_{it}$ = Book value of equity per share of firm *i* for the financial year ending at year *t*.

EPS_{it} = Earnings per share of firm *i* during the financial year *t*.

$OCFPS_{it}$ = Operating cash flow per share of firm *i* for the financial year ending at year *t*.

e_{it} = Error term indicating other information for firm *i* for year *t*.

β_0 = Intercept (explanatory power of the constant).

$\beta_1 \ldots \beta_3$ = Explanatory power of the independent variables.

The following step wise simple and multiple regression models are developed in order to test the hypotheses of this study.

The equation [1] examines the relationship between market value of equity and book value of equity.

$$MVPS_{it} = \beta_0 + \beta_1 BVPS_{it} + e_{it} \quad [1]$$

The equation [2] examines the relationship between market value of equity and reported earnings.

$$MVPS_{it} = \beta_0 + \beta_1 EPS_{it} + e_{it} \quad [2]$$

The equation [3] examines the relationship between market value of equity and compound of book value of equity and reported earnings.

$$MVPS_{it} = \beta_0 + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + e_{it} \quad [3]$$

The equation [4] examines the relationship between market value of equity and operating cash flow.

$$MVPS_{it} = \beta_0 + \beta_1 OCFPS_{it} + e_{it} \quad [4]$$

The equation [5] examines the relationship between market value of equity and compound of book value of equity, reported earnings and operating cash flow.

$$MVPS_{it} = \beta_0 + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \beta_3 OCFPS_{it} + e_{it} \quad [5]$$

Data analysis and presentation

Descriptive statistics

Descriptive statistics are calculated for dependent and independent variables in order to obtain an overview of the nature of data to be analyzed. This has been done after eliminating outliers. An outlier is an observation that lies an abnormal distance from other values in a random sample from a population, which will distort statistics. The reason for the outliers in this study is the existence of more extreme values than a normal distribution such as due to the scale of the company and performance of the company. To control the outliers for all tests, observations having standardized and residuals greater than 4 (with both signs) from each variable are removed. From the original full sample (325 firm-years observations), 15 cases are eliminated as outliers. All tests are performed in this study after controlling for the outliers.

Tab. 2 shows descriptive statistics of market value per share, book value per share, earnings per share and operating cash flow per share for the sample used in this study.

Table 2:
Descriptive Statistics

	MVPS	BVPS	EPS	OCFPS
Mean	63.658	63.658	5.309	4.873
Standard Deviation	71.728	71.728	9.698	10.385
Minimum	1.100	1.100	-17.540	-40.130
Maximum	505.250	505.250	54.190	52.210

Overall mean of market value, book value, earnings and operating cash flow per share are 63.658, 53.006, 5.309 and 4.873 respectively. Also, the standard deviation of market value, book value, earnings and operating cash flow per share are 71.728, 60.373, 9.698, and 10.385 respectively for the sample. This high value of standard deviation confirms the variability of the firm's size and the industry classification traded in the Colombo Stock Exchange.

Correlation

Tab. 3 shows Pearson correlation matrix for the sample (n = 310). The greatest correlation coefficient is 72.6% (between market value and book value) which is strong positive correlation. The correlation coefficient between market value and earnings is 54.9% which is also strong positive correlation, while the correlation coefficient between market value and operating cash flow is 36.6% (weak positive correlation). Considering the correlation coefficient between the independent variables, the correlation between book value and earnings is below average i.e. weak positive correlation (48.7%), book value is weakly correlated with operating cash flow (26.1%) and the correlation between earnings and operating cash flow is also below average (35.8%) i.e. weak positive correlation. Therefore, the correlation matrix appears to suggest that there is no serious multicollinearity problem among independent variables.

**Table 3:
Pearson Correlation**

	MVPS	BVPS	EPS	OCFPS
MVPS	1.000	0.726	0.549	0.366
BVPS		1.000	0.487	0.261
EPS			1.000	0.358
OCFPS				1.000

Value relevance of book value

The pooled regression result shows that there exist strong positive relationship between share price and book value as the value of standardized β is 0.726. The result of the regression rejects the null hypothesis and accepts the alternative hypothesis i.e. there is a positive relationship between book value and market value of equity (Hypothesis One). According to the Beta coefficient, one unit change in BV causes 0.726 units change in share price. The adjusted R^2 shows that the book value of equity per share will explain 52.6% of share price variation.

**Table 4:
Value-relevance of Book Value**

Sample	No. of Observations	Standardized Beta	Adjusted R^2
Pooled	310	0.726**	0.526
2006	63	0.735**	0.533
2007	62	0.793**	0.622
2008	63	0.862**	0.739
2009	61	0.756**	0.565
2010	61	0.585**	0.331

** Significant at the 0.01 level (2-tailed).

In this model, BV during all years is significant at 99% confidence level and considering the Beta coefficient (standardized regression coefficient); it had always a noticeable impact on share price. The coefficient of independent variable for all years has the expected sign, indicating that BV is positively correlated with share prices. Further, reasonable explanatory powers (33.1% to 73.9%) were reported for sample years with this model, measured by adjusted R^2.

Value relevance of earnings

The pooled regression result shows that there exist strong positive relationship between share price and earnings as the value of standardized β is 0.549. The result of the regression rejects the null hypothesis and accepts the alternative hypothesis i.e. there is a positive relationship between earnings and market value of equity (Hypothesis Two). According to the Beta coefficient, one unit change in EPS causes 0.549 units change in share price. The adjusted R^2 shows that the earnings per share will explain 29.9% of share price variation.

**Table 5:
Value-relevance of Earnings**

Sample	No. of Observations	Standardized Beta	Adjusted R^2
Pooled	310	0.549**	0.299
2006	63	0.668**	0.438
2007	62	0.641**	0.401
2008	63	0.670**	0.440
2009	61	0.492**	0.229
2010	61	0.386**	0.135

** Significant at the 0.01 level (2-tailed).

In this model, EPS during all years is significant at 99% confidence level and considering the Beta coefficient (standardized regression coefficient); it had always a noticeable impact on share price. The coefficient of independent variable for all years has the expected sign, indicating that Earning is positively correlated with share prices. Further, reasonable explanatory powers (13.5% to 44.0%) were reported for sample years with this model, measured by adjusted R^2.

Value relevance of book value and earnings

The pooled regression result shows that there exist strong positive relationship between share price and book value as the value of standardized β is 0.601 while the relationship between share price and earnings is weak positive as the value of standardized β is 0.256 which are statistically significant at 99% confidence level. The result of the regression model-3 for the sample rejects the null hypothesis and accepts the alternative hypothesis i.e. there is a positive relationship between compound of book value and earnings, and market value of equity (Hypothesis Three). According to the Beta coefficients, one unit change in BV causes 0.601 units change in share price while one unit change in EPS causes 0.256 units change in share prices. The adjusted R^2 shows that the compound of book value of equity per share and earnings per share will explain 57.5% of share price variation.

Table 6:
Value-relevance of Book Value and Earning

Sample	No. of Observa tions	Standardized Beta		Adjusted R^2
		BVPS	EPS	
Pooled	310	0.601**	0.256**	0.575
2006	63	0.526**	0.372**	0.623
2007	62	0.631**	0.293**	0.677
2008	63	0.755**	0.158	0.748
2009	61	0.684**	0.142	0.572
2010	61	0.525**	0.269*	0.391

** Significant at the 0.01 level (2-tailed).
* Significant at the 0.05 level (2-tailed).

In this model, BV during all year is significant at 99% confidence level and considering the Beta coefficient of BV (standardized regression coefficient); it had always a noticeable impact on share price. While the EPS is significant at 99% confidence level for years 2006 and 2007 and for the year 2008 to 2009 EPS is not significant. Again in the year 2010 it is significant at 95% confidence level. The coefficients of independent variables for all years had the expected sign, indicating that BV and EPS are positively correlated with share prices. Further, reasonable explanatory powers (39.1% to 74.8%) were reported for sample years with this model, measured by adjusted R^2.

Value relevance of operating cash flow

The pooled regression result shows that there exist weak positive relationship between share price and operating cash flow as the value of standardized β is 0.366. The result of the regression model-4 for the sample rejects the null hypothesis and accepts the alternative hypothesis i.e. there is a positive relationship between operating cash flow and market value of equity (Hypothesis Four). According to the Beta coefficient, one unit change in OCF causes 0.366 units change in share price. The adjusted R^2 shows that the operating cash flow per share will explain 13.1% of share price variation.

Table 7:
Value-relevance of Operating Cash Flow

Sample	No. of Observations	Standardized Beta	Adjusted R^2
Pooled	310	0.366**	0.131
2006	63	0.253*	0.049
2007	62	0.221	0.033
2008	63	0.588**	0.335
2009	61	0.367**	0.120
2010	61	0.352**	0.109

** Significant at the 0.01 level (2-tailed).
* Significant at the 0.05 level (2-tailed).

In this model, OCF is significant at 99% confidence level only for the years 2008, 2009 and 2010. The coefficient of independent variable for all years has the expected sign, indicating that OCF is positively correlated with share prices. Further, less explanatory powers (3.30% to 33.5%) were reported for sample years with this model, measured by adjusted R^2.

Value relevance of book value, earnings and operating cash flow

The pooled regression result shows that there exist strong positive relationship between share price and book value as the value of standardized β is 0.586 while the relationship between share price and earnings is weak positive as the value of standardized β is 0.215 and the relationship between share price and operating cash flow is also weak positive as the value of standardized β is 0.136 which are statistically significant at 99% confidence level. The result of the regression model-5 for the sample rejects the null hypothesis and accepts the alternative hypothesis i.e. there is a positive relationship between compound of book value, earnings and operating cash flow and market value of equity (Hypothesis Five). According to the Beta coefficients, one unit change in BV causes 0.586 units change in share price while one unit change in EPS causes 0.215 units change in share prices and one unit change in OCF causes 0.136 units change in share prices. The adjusted R^2 shows that the compound of book value of equity per share, earnings per share and operating cash flow per share will explain 58.9% of share price variation.

Table 8:
Value-relevance of Book Value and Earning

Sample	No. of Observations	Standardized Beta			Adjusted R^2
		BVPS	EPS	OCFPS	
Pooled	310	0.586**	0.215**	0.136**	0.575
2006	63	0.548**	0.321**	0.104	0.623
2007	62	0.625**	0.292**	0.029	0.677
2008	63	0.703**	0.115	0.152*	0.748
2009	61	0.653**	0.135	0.091	0.572
2010	61	0.529**	0.165	0.236*	0.391

** Significant at the 0.01 level (2-tailed).
* Significant at the 0.05 level (2-tailed).

In this model, BV during all years is significant at 99% confidence level and considering the Beta coefficient of BV (standardized regression coefficient); it had always a noticeable impact on share price. While the EPS is significant at 99% confidence level for year 2006 and 2007 and from the year 2008 to 2010 EPS is not significant. Considering the Beta coefficient of EPS (standardized regression coefficient); it had the expected sign for all sample years. OCF is only significant at 95% confidence level for year 2008 and 2010. Considering the Beta coefficient of OCF (standardized regression coefficient); it also had the expected sign for all sample years. The coefficients of independent variables for all years had the expected sign, indicating that BV, EPS and OCF are positively correlated with share prices. Further, reasonable explanatory powers (42.8% to 76.0%) were reported for sample years with this model, measured by adjusted R^2.

Findings and discussion

The first objective of the present study is to find value relevant variables among the financial related variables. The result shows that the book value per share, earnings per share and operating cash flows per share are value relevant variables. It has been proved in many empirical studies all over the world that book value per share and earnings per share are value relevant variables. The result also shows that book value per share had a positive relationship with market value per share. This finding is consistent with earlier Sri Lankan finding of Pathirawasam (2010). And also, all the literatures reported in this study agree the same finding. Similar to book value per share, the finding reveals that earning per share had a positive relationship with market value per share during the studied period. This finding is also consistent with earlier Sri Lankan studies of Perera and Thrikawala (2010) and Pathirawasam (2010). All other international studies reviewed in the present study, found the same positive relationship between EPS and MVPS. The third variable, operating cash flow per share found in this research as a value relevant variable which had statistically significant positive relationship with MVPS for the sample. This finding is consistent with Durán et al. (2007) and Bo (2009).

The second objective of this study is to identify the most significant value relevant variable among the financial related variables. The research has found that the book value per share is the most value relevant variable among the other variables. It is consistent with prior studies of Brief & Zarowin (1999), Suwardi (2009) and Abayadeera (2010) with USA, Indonesian and Australian samples respectively. Even though, this finding is inconsistent with Pathirawasam (2010) whose sample includes Bank, Finance and Insurance sector, whereas the present study excludes this sector from the sample.

The third objective of the present study is to determine the best model for explaining the value relevance of accounting information. To achieve this purpose the stepwise regression has run and the best model found which consisting three variables. Those are book value per share, earnings per share and the operating cash flow per share. This is the alternative model improved by adding Operating Cash Flow per share as an independent variable to the original Ohlson's price model. The basic Ohlson model and the alternative model were revealed approximately the same explanatory power of Adjusted R^2 for the studied period from 2006 to 2009. But in year 2010 the alternative model showed a higher explanatory power (Adjusted R^2 = 42.8%) than the Ohlson model (Adjusted R^2 = 39.1%). According to the pooled regression results also, the alternative model revealed a higher explanatory power (Adjusted R^2 = 58.9%) than the Ohlson model (Adjusted R^2 = 57.5%). Therefore, it can be concluded that the alternative model with operating cash flow per share provides extra information and better statistics than the original Ohlson model. This finding is consistent with prior study of Durán et al. (2007) with Mexican data.

Conclusions

The present study reached the following conclusions:

i. Book value per share, earnings per share and operating cash flow per share are individually and jointly have the positive and statistically significant relationship with market value per share. Therefore these three variables are identified as value relevant variables in Sri Lanka.

ii. The book value per share is identified as the most value relevant variable than earnings and operating cash flow per share in Sri Lanka.

iii. Both, the original Ohlson's (1995) price model and the alternative model with operating cash flow per share are value relevant. However, the proposed alternative model is more informative than the original Ohlson model for Sri Lankan data.

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Comparative Study on Assessing Employee Performance Management System in the Provincial Ministry of Local Government: Northern and North Western Provinces in Sri Lanka

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Abstract: The effective management of human resources depends on the mechanism that an organizations has. In this range Employee Performance Management (EPM) System has turned into popular. Most of the government organizations in Sri Lanka continue traditional method of performance appraisal system. In this view, the researcher selected the Ministry of Local Government of Northern Province and North Western Province to do the comparative study on EPM systems. The analysis revealed that both Provinces are adopting EPM practices at moderate level.

Keywords: Employee Performance Management (EPM), Performance Appraisal, Employee Performance Management process and EPM system.

Introduction

In the present knowledge economy with dynamic resolution of technological changes, the global has experienced in creating new thinks of every movement. In view of this many management disciplines and practices are being implemented according to the requirement of changes. Human resource is a vital resource to any organization. In order to manage these resources effectively, the organizations need to have a mechanism to evaluate their performance.

In this series Employee Performance Management System has become popular. Most of the public sector organization in the country is continuing traditional method of performance appraisal system. They have been practicing performance appraisal system based on bureaucratic styles. Even if they have started some practices like public sector reforms, their effort on EPM practices is not sufficient/ relevant to the aims of real performance management.

In this view, the researcher has selected the Ministry of Local Government and its Departments of Northern Province in order to assess the existing EPM system and compare this system with EPM practices of Chief Ministry and its different Departments (Vayamba Province) and find out the gap between the existing EPM systems of those Ministries.

Research Problem

The some research survey emphasized that the effort on EPM practices is not sufficient in public sector organizations in Sri Lanka (Bandaranayake 2001). If they need to encourage staff to achieve their goals as well as organizational goals, they must assess their level of performance and adopt the new aspects of EPM practices too. In view of this the researcher has selected Ministry of Local Government of Northern Province and North Western Province to do the comparative study on assessing efficiency level of EPM system. By conducting pilot survey in two provinces, the researcher indentified that the following is a problem in the above organizations in connection with EPM system and attempted the research study to explore the findings based on the problem.

Problem Statement

There is a gap between Employee Performance Management system in the Ministry of Local Government of North Western Province (Wayamba) and Northern Province.

Research Questions

Researcher could derive the following research questions based on the above problem statement.

1. Is the Local Government Ministry of Northern Province having a gap in efficiency level of EPM system compared to the system in North Western Province?
2. What type of relationship is remaining between Structure, Process and efficiency level of EPM system of both Provinces?
3. How do Performance Review and Feedback process influence on the efficiency level of EPM system in the selected Ministries of both Provinces?
4. How could the commitment and competences play major role in EPM system of the two Provinces?
5. In what extent are the two Provinces practicing the applications of EPM system?

Objectives

This research focused on the following objectives in relation to EPM system in both provincial councils and their bodies (Local government Ministry and its Departments).

The primary objective of this research is

To assess the efficiency level of Employee Performance Management System in the Ministry of Local Government of Northern Province and North Western Province.

Specific Objectives are

1. To identify the relationship between Structure and Process with efficiency level of EPM system in two Provinces.
2. To predict the impact of sub variables of people (Commitment and Competences) and Process (Review and Feedback) on EPM system of both Provinces
3. To find out the level and adequacy of applications of EPM system in the Ministries of two Provinces.
4. To make necessary recommendations to incorporate into the EPM system in order to adopt the new/ required EPM practices in Local Government Ministries of Northern and Northern Western Provinces.

Summary of Literature survey

The review of literatures and pre research findings related to EPM system are discussed briefly.

The key terms

EPM : it is a process for establishing a shared understanding about what is to be achieved at an organisation level.

Performance Appraisal: It is the formal assessment on the appraisee's performance for the appraisal period. It properly describes a process of judging past performance and not measuring that performance against clear and agreed objectives.

The different views of EPM Concept.

Performance management and Appraisal: Murphy and Cleveland (1995) state that an ideal performance appraisal form has five key components that covers

1.) Organizational competencies
2.) Job competencies
3.) Key responsibilities
4.) Goals and major objectives
5.) Individual achievements and accomplishments.

EPM Process: The employee performance management system is a process which consists of three main processes. Such processes are Performance planning, implementing & measuring stage and performance reviewing. (Armstrong, M 2006)

EPM practice in Sri Lankan Public Sector

When comparing EPM practices in public sector with private sector in Sri Lanka and Most of the Asian countries, they are still below in adopting new performance management practices due to some reasons (Bandaranayake, D 2001).

Towards a Performance Culture of Excellence in Sri Lanka by Performance Appraisal

Being a developing country Sri Lanka is in serious need of a performance culture of excellence in every organization as her socio-econornic development heavily depends on success and progress of success of organizations a sine qua non of which is Performance Appraisal (PA) that is concerned with identifying, measuring, influencing and developing job performance of employees. (Opatha,P 2010)

International EPM practices

Performance Management System - Office Performance Evaluation

It is a new way of managing performance in the civil service in Australia that serves as an evaluation strategy for assessing office performance or the collective performance of individuals within the smallest operating unit of an organization.

Finally the literature review has been finished with previous research findings in relation to the survey. It is illustrated in the following table.

Research Methods

Population and Sampling

There are more than 2305 employees working in selected ministries of both Provinces. For the purpose of this study around 15% of the staff was taken as sample based on Proportionate Stratified random sampling method. The sample size of the study is 357.

Conceptual model

The conceptual model of the research has been designed based on the main process and determinants of an EPM system. The related variables were derived from various sources of literatures. In this study people, structure and Process were mainly selected as independent variables and efficiency level of EPM system was dependent variable. People variable consists of adequacy of people, competences and commitment. Structure includes Position and powers, rules and guide lines and relationship. The process contains the main process of EPM namely performance planning, measuring and Reviewing.

**Table 1:
Over view of dimensions in Research on EPM System**

Name of the Author	Title	Concepts/ variables
Bandaranagake, D 2001	"Assessing Performance Management of human resources for health sector in South East Asian countries"	Structure Process and People
Faizal, M 2005	"Institutionalization of Performance Appraisal system: A Case study of the Maldivian Public service"	Competences, commitment, motivation, leadership and structure
Opatha, P 2003	Employee Performance Evaluation Systems: An Evaluative Study of Selected Public Quoted Manufacturing Firms in Sri Lanka	EPE policies, EPE criteria and standards, EPE methods, feedback interviews, evaluator training, implementation and review and renewal
Hussain Ali, M & Opatha, P 2008	Performance Appraisal System and Business Performance: An Empirical Study in Sri Lankan Apparel Industry	Link between Performance appraisal system and business performance
Levensaler, L 2004	The Essential Guide to Employee Performance Management Practices:	Organizational characteristics – such as business maturity, management culture, industry, company size, and global reach
Nankervis, A 2004	Performance Management Research in Australia	Employee development, Effective management, work systems and team contributions

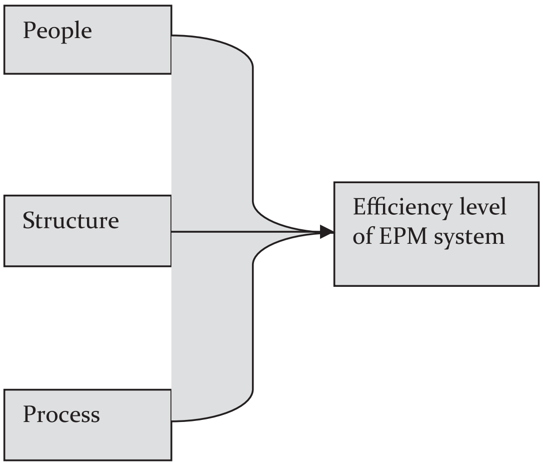

Figure 1: Conceptual model

Data collection method

The data was collected in the following ways

I) Primary data

1. Questionnaire method was employed to collect data. Five likert scale questions were used to answer the questions based on the variables and indicators.
2. Staff were interviewed those who are able to clarify the data more.

II) Secondary data

1. Ministries and its departments' administration report, performance manual & regulation guide and other relevant documents were considered for collecting additional information
2. Previous research report, magazines, books and web sites related to employee performance management.

Research hypotheses

The following hypothesizes were tested to check the relationship between variables and predict the impact of the independent variables on EPM system. In this view, the first and forth hypotheses were formulated and tested by using multiple regression analysis. And second and third were formulated and tested through correlation technique.

H1: Commitment of employees is expected to have more impact than competences on efficiency level of EPM system

H2: There is a strong positive relationship between structure and efficiency level of EPM system in public sector organizations.

H3: There is a significant positive relationship between efficiency level of EPM system and overall process.

H4: Performance review and feed back is more significant process in an EPM system

Methods of analyzing data

In order to describe the data collected, frequency tables, percentage, graphs and summary statistics were applied. For the purpose of making comparison between the EPM systems of two provinces, mean and standard deviation were used.

Correlation and regression analysis were used to illustrate the relationship between independent variables and dependant variables. And they were also used to predict the impact of independent variables.

Identification of Efficiency level of EPM system

To indentify the efficiency level of EPM system, the three range of efficiency level (high, average and poor) were developed.

Altogether 50 questions were taken into account. If the given total weight is the range between 116.67 and 183.33, it means that the Province is practicing EPM system in average level of efficiency. Likewise if it is less than166.67 and greater than 183.33, efficiency level of EPM system is poor and high respectively.

Results and Discussions

Results of the survey are discussed in the following manner

Comparison of People in two Provinces

It is emphasized that the adequacy of the people in EPM activities are below average in Northern Province and more than average in North Western

Province in terms of given scales. Employees' commitment in planning, implementing and monitoring the EPM practices are almost average in Northern Province and above than average in North Western Province.

It is highlighted that the required level of skills, knowledge and abilities of those people in performing the EPM activities are just below the average in Northern Province and above the average level in North Western Province. By evaluating the efficiency level affected by People variable, both Provinces also falls under range of average. Because, the score (mean) given for Northern and North Western Provinces is between 39.67 and 62.33

It put emphasis on that the Chief Ministry of North Western Province and its Departments have considerable advancement than the Ministry of Local Government of Northern Province and its Departments in terms of number of staff, their commitment and competences linked with EPM system.

Structure in two Provinces

Under the structure variable, it is found that the adequacy of powers delegated to the position and positions relating to EPM activities are above average level in Northern Province and North Western Province according to the given scales. It underline that the rules ,guidelines & procedures related to implementing EPM system are below the average in Northern Province and slight arise than the average in North Western Province according to the specified scales.

It highlights that the degree of relationship being maintained between reviewer and subordinates are almost average in Northern Province and above average in North Western Province according to the prearranged scales.

By evaluating the efficiency level affected by Structure variable, both Provinces also falls under range of average. Because, the score (mean) given for Northern and North Western Provinces is between 42 and 66.

It also put emphasis on that the Chief Ministry of North Western Province and its Departments have considerable development than the Ministry of Local Government of Northern Province and its Departments in terms of position & powers, relationship among the employees and rules, guidelines &procedures in connection with EPM system. Furthermore, if it was looking at that the general opinions of respondents in this regard was average.

EPM Process in two Provinces

Under the process variable, It emphasize that adaptation of practices related to employee performance agreement is almost average in Northern Province and slight increase than average in North Western Province according to the specified scales. It underlines that adequacy of practices relates to goals setting are over average in Northern Province and North western Province. It highlights that the activities and practices relating to measuring employee performance are almost the average in Northern Province and greater than average in North western Province according to the given scales.

It emphasizes that the activities and practices relating to employee performance review and feedback are below the average in Northern Province and better than average in North Western Province according to the given scales. The efficiency level affected by Process variable in both Provinces falls under the range of average. Because, the score (mean) given for Northern and North Western Provinces is between 35 and 55.

It also emphasize that the Chief Ministry of North Western Province and its Departments have considerable progress than the Ministry of Local Government of Northern Province and its Departments in appearance of performance agreement, defining goals & standards, continuous performance reviews & concurrent feedback and performance review & feedback. Whereas: the total deviation between the respondents' opinions in North Western was higher than the average deviation (32.31>29.12). It also emphasize that the respondents in North Western Province have different opinions in regarding their EPM system. The following table presents the statistical evidence for the above analysis.

Table 2:
A Summary data Profile

Province	People	Structure	Process	Total
Mean	56.46	58.94	45.18	160.58
StdDev	11.30	12.38	9.55	32.31
Northern				
Mean	48.15	49.79	39.74	137.68
StdDev	6.69	7.03	5.70	18.42
Grand Total				
Mean	52.63	54.73	42.67	150.03
StdDev	10.32	11.23	8.45	29.12

Source: *Sample Study 2010*

The compiled result of People, Structure and Process on EPM System

According to the main objective (Assess the efficiency level of EPM system in the Ministry of Local Government and its Departments in Northern Province and identify the gap by compared to the system in Wayamba Province), the overall finding of the research reveals that selected Ministry and its Departments of North Western Province has been practicing EPM activities little bit more advance rather than Northern Province. It is noted that there is a gap in the efficiency level of EPM system between Northern Province and North Western Province. In terms of level of efficiency, both provinces are almost practicing EPM system in average level of efficiency. Even though, the efficiency level of EPM system in Northern Province is lower than the North Western Province.

Hypotheses findings

All of these hypotheses were accepted. These indicate that there is a strong positive relationship between structure and efficiency level of employee performance management system in public sector organizations.

According to the hypothesis-2 it is concluded that there is a very strong positive correlation between process and efficiency level of employee performance management system.

In addition to that it is also proven that the commitment has more impact on EPM system than competences and the performance review and feedback significantly has added impact on EPM system than other variables fall under process.

On the above all analysis and findings, the main objectives of the research study have been achieved. It could be summarized that the there is a significance gap existing in employee performance management system between Northern Province and North Western Province.

Conclusion

On the above all analysis and findings, it could be summarized that efficiency level of EPM system affected by People, Structure and Process variable fall under the range of average. As a whole, the North Western Province and Northern Province are practicing EPM system at average level of efficiency. Even though, the efficiency level of EPM system in Northern Province is lower than the North Western Province. Therefore, it is concluded that there is a gap existing in EPM system between Northern Province and North Western Province.

The main reason for the gap between the two provinces is that the selected Ministry and its Departments of Northern Province don't enough have and practice rules, guidelines and procedures related to EPM system. Other reasons are lack of employee commitment and competences. Northern Province is also lack in reviewing its employee performance.

Even though both province also need to executing a credible employee performance management system in place that is based on changes & development initiatives, ethical behavior and trust. It is an area that needs further consideration.

The study also revealed the relationship between Structure and Process with Efficiency level of EPM system. It indicates that there is a strong positive relationship between structure and efficiency level of EPM system in both Provinces. Further, it is concluded that there is a very strong positive correlation between process and efficiency level of EPM system. In addition to that it is also proven that the Commitment has more impact on EPM system than Competences and the Performance Review and Feedback significantly has added impact on EPM system than other variables fall under process.

The outcome of study is beneficial for practitioners, researchers, planners, policy makers, academicians, and development economists to formulate effective strategy of improving Employee performance in Sri Lankan public sector as well as private sector and other similar countries.

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Study on the Extent of the Factors Affecting the Selection of Banks by Customers with special reference to Batticaloa District

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Abstract: Customers are the source of earnings and have become an important decision tool to attract customers for their businesses. There are state and private banks in Batticaloa District. They use different types of techniques and methods to provide services. This research has attempted to find out the degree of influence of factors in selecting the particular banks. Availability of technological aspects, the style of servicing, the service system, assurance, service structure, reliability and courtesy are influencing with differing degrees.

Keywords: service structure, courtesy, reliability

Introduction

Customers are the key of determining the success or failure of the business in contemporary business environment. Winning competitive advantage often hinges on being distinctively better than rivals at one or more of the success factors. Marketers recognize that identifying success factors is the top priority as they are good cornerstones of a firm's strategy.

Three forces dominate the prevailing marketing environment in the service sector which could be increasing competition from private players, changing and improving technologies and continuous shifts in the regulatory environment. (Philip Kotler, 2003). Customers have become more and more aware of their requirements and demand higher standards of services, service perceptions and expectations are continually evolving, making it difficult for their service providers to measure and manage more effectively.

The key lies in improving the service selectively, paying attention to ore critical service attributes/dimensions as a part of customer service management. It is impressive to understand how sensitive the customers are to various service attributes of dimensions. Allocating resources in the fashion that is consistent with customer priorities can enhance the effectiveness in the service operations.

Customer satisfaction is the most important purchase decision factor influencing the customers' buying decisions. Also, it has strategic benefits of contributing to market share and return on investment as well as in the lowering manufacturing costs and improving productivity.

Banking services are technology oriented and more sophisticated. In the banking sector, three things are important such as operating efficiency, financial viability and service quality. Here the service quality means "if customers' expectations are met, the quality of the service is satisfactory." If they are exceeded, the quality of the service delivered is ideal. If expectations are not met, however, the service quality is unacceptable and the responsible business might have lost a customer.

The sustainability of banking sector depends on the quality of service provided to customers. The private banks and state banks compete with each other in proving quality of service. The expectations of people are changing time to time. Meanwhile the banks also provide service to customer according to the globalizations and technological changes.

Significance of the study

Banking is become as one of the important part of personal and organizational life. In Sri Lanka, service sector contributes more than 50% of the GDP of the country. Among the service sector organizations, banking is the backbone. There are studies available on entire banking industry in Sri Lanka. But only few studies have been done to the district level. In order to understand it in a district level the Batticalo district has been selected. In Batticaloa District, there are a lot of state and private banks available with various offers of products and services. Customers have offered freedom of choices as to where to go and what to buy. But there are factors which influence their decision making to make a good deal. If the decision making is wrong, their investment will not give expected yield. This study will identify the factors which would induce the customers to select the banks which they feel is better than others.

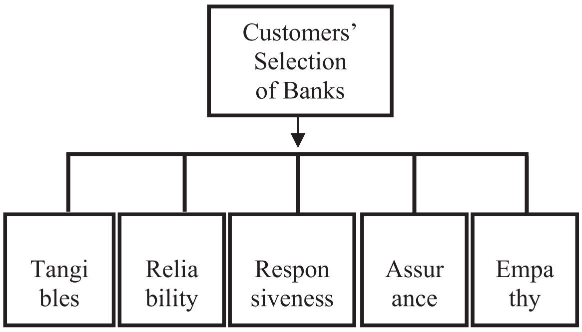
Problem Recognition

Customers' almost compare the different alternatives available to select the best option to better satisfy their needs and wants. Banks are considered to be the place for huge competition in recent years. With this competition they use novel strategies to capture the customers. Therefore, the key is in the hands of customers. The trend for financial services has been quite different in the Batticaloa District.

In Batticaloa District, there are a number of banks available namely three state banks such as Peoples' Bank, Bank of Ceylon and National Savings Bank and private banks such as Commercial Bank, Hatton National Bank, Sampath Bank and Seylan Bank. But it is evident that a large number of customers keep bank accounts in state and private banks. The purpose of this research is to find out the extent of factors that influence over the selection of banks by the clients in Batticaloa District.

Conceptual Framework

Figure 1.1 Conceptual Framework



Source: *Prepared for this study in particular*

Tangibles

Tangibles includes the physical evidence of the service, physical facilities, appearance of personnel, tools or equipment used to provide the service, physical representations of the service such as a plastic credit card or bank statement, other customers in the service facilities. (Berry et al, 1985)

Reliability

Reliability refers to as the firm performs the services right the first time and honors its promises. It involves in accuracy in billing keeping records correctly; performing the service at the designated time. (Parasuraman et al 1985)

Responsiveness

Parasuraman et al (1985) give the definition of responsibilities as it concerns the willingness or readiness of employees to provide service. It involves timeliness of services. They then list keeping customer informed as to when services will be performed; prompt service to customers; willing to help customers and readiness to respond to customer's request as the content to evaluate this dimension. Similarly, Johnson (1997) also defines responsiveness as timeliness of service delivery.

Assurance

One of the aspects in the assurance factor is "knowledge to answers questions." Assurance is a knowledge and courtesy of employees and ability to inspire trust and confidence. (Parasuraman et al 1985)

Empathy

Keeping customers informed in a language they can understand and listening to them. It also means that the company has to adjust its language for different consumers. It involves explaining the service itself, how much the service cost; the tradeoffs between service and cost; assuring the consumer that a problem will be handled (Parasuraman et al 1985). It is further supported by Johnson (1997), communication is also defined as the way of communication can be understand by customers

Operationalization

Table 1.1: Operationalization

Variables	Dimensions
1. Tangibles	1.1 Modern equipment
	1.2 Physical Facilities
	1.3 Neatness
	1.4 Material
2. Responsivenes	2.1 Early Information
	2.2 Prompt Service
3. Problem Solving	3.1 Problem Solving
	3.2 Privacy
4. Assurance	4.1 Safety
	4.2 Courteous
	4.3 Innovation
	4.4 Degree of Control
5. Empathy	5.1 Individual Attention
	5.2 Knowledge
	5.3 Enough Time
	5.4 Personal Relationships
	5.5 Discrimination

Methodology

Sample Selection

The target population for this study includes all the customers of private and state banks in Batticaloa District. Target population includes customers from Peoples Bank, Bank of Ceylon, Hatton National Bank, National savings Bank, Sampath Bank and Seylan Bank.

Sampling

For this research 200 samples were randomly selected from Bank Account holders in Batticaloa district. Around 64,510 customers are identified to have bank accounts in which two hundred customers are taken as sample for this study. Two hundred questionnaires divided and equally (100 questionnaires for state banks and 100 questionnaires for private banks) randomly issued.

Table 1.2: Sampling

Banks	No of customers	%	Sample size
People Bank	14,316	22	44
Bank of Ceylon	12,903	20	40
Commercial Bank	9,889	15	30
Hatton National Bank	7,376	11	22
National Savings Bank	2,301	6	12
Sampath Bank	4,092	8	16
Seylan Bank	13,633	18	36
Total	**64,510**	**100**	**200**

Source: *Statistical book-2010*

Date Collection

This study was carried out based on primary and secondary data sources. Primary data are mainly collected by questionnaires including personal and research data. Secondary data are collected from statistical hand book and websites.

Method of Measurement, Analysis and Evaluation

Responses for questionnaire are marked by using Five Point Likert Scales such as highly important (HI), important (I), questionable (Q), unimportant (UI) and highly unimportant (HUI). Collected data are analyzed by using SPSS in order to obtain mean and standard deviation for the study. Based on the values indicated in the questionnaire, a mean value is calculated.

The evaluation criteria to find out the impact of factors affecting the selection of banks are as follows;

Range	Decision rule
1.0 < Xi ≤ 2.5	Lower Impact
2.5 < Xi ≤ 3.5	Moderate Impact
3.5 < Xi ≤ 5	High Impact

Source: *Developed for this study*

Discussion

Tangibles

Tangible consist of modern equipment, physical facilities, neatness and material of both banks.

Level service quality regarding tangible between are different, that is level of service quality of Private bank is high but State bank is in the moderate level, because, the mean value of tangible is 4.19 in Private Bank but 2.63 is in State bank.

Modern equipment includes ATM facilities, ATM any time and modern technology. The mean value (4.26) of Private bank is more than State bank (3.57). All private banks provide ATM facilities to their account holders.

ATM access any time. When comparing the mean value regarding quality of ATM access provided by the Private Bank (4.15) is more than the State banks (3.04). All Private Banks have ATM facilities. But State bank has many branches but availability of ATM machines is vey less. So availability of ATM machine is not enough for all ATM card holders to get service.

Considering the modern technology, mean value of Private Bank (3.85) is more than state bank (3.09). In Private bank, transactions are made quickly because they use many computers for their transaction purpose rather than State banks.

Physical facilities includes such as layout line, counters, seating, AC and entertainment and location. Considering the space of banks, the mean value of Private bank (4.70) is more than State bank (2.06). In private bank, the counters have separated and differentiated. In each counter, proper instructions have mentioned. Customers state that state banks are seemed to be not in a way that they expect when receiving services.

Considering the counters, it has mean value of 4.54 for Private bank compared to 2.03 of state banks. The private banks maintain many counters for their transaction purpose. It has convenience for customer. But in State bank, there are few certain units are available. Therefore, private Bank has provided better services to customers than State bank.

Considering the seating capacity, it has mean value of Private bank (2.86) is less in the State bank (3.69). In Private Bank, the seats are available limited for customers. But in State banks, the seats availability is higher than Private bank. Even though, 62% accounts holders of State bank disagree regarding this services.

Considering the location and availability of banks, the mean value of Private bank 2.22 compared to that of 3.78 of State bank. Reason for this is that the availability of private banks is limited. State banks are almost available in all branches of the research area. Consumers choose the banks based on the location as they feel more convenient.

Neatness of banks and staff indicate that both banks maintain at a higher level. in terms of neatnes of staff and banks, it has the mean value of 4.93 for Private bank and 4.05 for State banks

Material includes availability and identification of material. The mean value of availability of materials in Private bank (4.86) is more than State bank (3.40). When customers request any documents (e.g. loan application form) from Private Banks, they can get easily. But in state bank, when customers request for documents (e.g. loan application form) they have to wait for more time in the bank, because the customers cannot get documents directly from particular officer easily, it will be received by customers through many staff.

Reliability

The reliability includes problem solving, validity and privacy and confidentiality. When comparing the level of service satisfaction regarding reliability, there is high level in private bank and moderate level is in state bank. Here the mean value of private banks (4.3) is more than State banks (3.52). Many dimensions have contributed in determining the service quality. The variables of reliability between both banks are discussed below.

When observing the level of service satisfaction regarding the inquiry the mean value of Private Banks (4.00) is more than the State banks (2.25). Because in Private Banks, at the time of problem arise, it is solved. Here they give more explanation and information regarding that service. In state banks, the customers have to wait long time to get explanation to their problem. When providing explanation, the employees of State banks spend short time with particular customers; here they are not interested to spend time for problem arising customers.

Further, when comparing the problem solving method, the mean value of private Banks (4.12) is more than the State banks (3.94). In Private Banks, the business development officer and assistant marketing managers are always available, so the customer can deal with them regarding their problem, here the customer can get appropriate information. But in State bank, if one customer seeks one officer to get clarification, that officer neglects to deal with them and they are involved that particular customer with other officer, it will delay to get service to customers.

Second dimension is privacy which includes information and credit card usage. Information means extent to which the banks keep the customer information secretly.

The mean value of Private Banks (4.76) is more than State banks (3.90). But in both banks some customers disagree, when customer give the passbook with counters for balance updating they update without any acknowledgments of particular costumer.

In case of credit card usage, the Private Banks has high level of service quality, but it is low in State banks. Because the mean value of Private banks (4.97) is more than State banks (3.00). The customers can use the ATM card as credit card in Private Banks. But the State banks didn't provide the credit card facilities or very less person use the credit card.

In terms of confidentiality, customers of state banks believe that they are more secured than private banks' customers. Even though the bank go to bankruptcy, the government will provide their money back. due to this dilemma, majority of customers of agreed to keep their accounts in state banks (mean value 4.38) rather than keeping it in private banks (mean value 3.33).

Responsiveness

Responsiveness includes two dimension early instruction and prompt services. First, indicators early instruction, the mean value of Private Banks (4.09) is more than State banks (3.53). In Private Banks, the information are providing earlier than the State banks. So customer has to wait in State banks than that of Private Banks.

In prompt services, online services, overdraft facilities, fixed deposits facilities, phone banking facilities and transaction time are discussed. When comparing the level of service quality of online services. the level of service quality of Private banks(3.59) is high but level of service quality is low in State banks (2.00) here the Private banks provides SMS banking and internet banking service to customers. But the State banks did not provide SMS or internet banking services.

Third dimension is service provided by the both banks is overdraft facilities. The level of service quality of both Banks is moderately. Due to the unexpected situation (local war), both banks has reduced overdraft facilities to customers. Anyway, the State Banks admits the overdraft to customers than Privates banks.

Fourth dimension service is fixed deposit facilities; the level of service quality of both Banks is moderately. Because, the mean value of Private Banks (2.88) is more than State banks (2.64) both banks did not admit interest for fixed deposit before its maturity period. Though, the both banks admit the saving interest rate for one year fixed deposits, after three month before maturity period. Here, there is more restriction in State banks than Private Banks.

Fifth dimension is phone banking service. The level of service quality of Private Banks is high but it is low in State Bank because, the mean value (3.76) of Private Banks is more than State banks (1.89). Here, employees of Private Banks mostly provide the information though phone.

Regarding transaction time spent in both banks by customers is discussed bellow. The level of service quality of Private Banks is higher than State banks. Because, the mean value of Private Banks (4.48) is more than State banks (2.08). In Private Banks, there are more counters for each transaction as earlier stated, so that the customer spent less time in Private Banks.

Assurance

Fourth variable of service quality is Assurance which includes four dimensions such as safety, courteous, innovation and degree of control. Each dimension is discussed comparatively between both banks below.

First, safety includes transaction and records. The mean value of state banks (4.31) is higher than that of private banks (2.88).

Regarding safety records, the mean value (4.06) of Private Banks is more than State banks (2.22). When customers ask any prior information with State banks it takes long time, because, they have not maintain recorded. Sometimes, updating takes long days in pass book of customers. But in Private Banks, all information mostly are recorded and updated as early possible. So the customers are able to get information immediately.

The mean value (4.48) of private banks is more than State banks (2.30) regarding service quality of courteous of employees. When the employees of state bank is clarified any problem by customers, they misbehave with customer and scold the customers. They have not spent sufficient time to deal with customer. In private bank, the employees of bank behave in good manner.

The mean value (3.49) of private bank is more than state bank (2.51) regarding service quality of innovation service. The private bank provides the new services (E.g.-PALM tap services) according to the current situation. The private bank is going to introduce palm tap services. But state bank has not provided such services.

Second dimension is degree of control which includes customer and withdrawal. Here customer means extent to which both customers after service time. The level of service quality in dimension private bank is higher than State bank. Because, the mean value (3.63) of private bank is more than state bank (2.23). In case of important transaction, the private bank sometimes admits the customer after service time. But in State banks have not provided this facility to customers.

When comparing the level of service quality regarding withdrawal, the level of service quality of private bank is high but level of service quality is low in state bank because the mean value (4.15) of private bank is more than State banks. The customer can withdraw large amount of money in private bank any time. But in state bank, the customer has to wait more time and sometimes it has taken one or two days when withdrawing the large amount of money.

Empathy

Empathy includes individual attention, knowledge, enough time, personal relationship and discrimination. Customers of both banks state that they given much more individual attention. Because, the mean value (4.00) of private bank is little more than state bank (3.86).

Customers of state banks feel that it is very much helpful to keep accounts with state banks as the staff of state banks having a good relationship with customers. They act in a polite way compared to that of private banks staff.

Conclusion

The research study on deciding the factors lead to the selection of banks in the Batticaloa District. As per the results obtained via the study, it reveals that customers are very complex to take decisions of the suitable banks. Due to the completion among banks, all banks try to provide all kinds of products and services.

This particular study has found out that the customers in the banks are driven largely by the facilities provided by the banks. Availability of technological aspects, the style of servicing, the service system and the assurance provided by private banks are the main reasons for selecting private banks in Batticaloa District. On the other hand, factors as such service structure, reliability and empathy of staff are found to be influencing over state bank customers. based on which they have made their decisions in the selection of banks in the Batticaloa District.

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Firm Size and Book-to-Market Equity on Behavior of Stock Returns: Empirical Evidence from Colombo Stock Exchange

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Abstract: The aim of this paper is to examine thebehaviour of stock returns of Sri Lankan companies with respect to two popularly known firm level characteristics: firm size and book-to-market equity, employing multi factor model for the period span from 2007 to 2011.Empirical findings from multiple regression analysisreveal that book-to-market equity has positive role in behavior of stock returns while firm size has expected negative direction in behavior of stock returns and not significant.

Keywords: Firm Size, Book-to-Market Equity,Stock Returns

Introduction

The relationship between risk and return is a fundamental financial relationship that explains behaviour of expected stock returnsdeterminebytwo kinds of risk which are firm specific factors and macro-economic variables. Even though previous studies {e.g: Gordon (1959); Friendand Puckett (1964); Bower and Bower (1969);malkielandcragg (1970); Zahir (1992)} believed that expected stock returnsare highly sensitive to macroeconomic events, firm specific factors alsoone side of coin impact on behavior of expected stock returns.

Capital Asset Pricing Model of Sharpe (1964), Lintner(1965) and Mossi(1966) or Sharpe (1964), Lintner (1965) and Black (1972) is the first model to explain the relationship between risk and returns. The limitation of this model is employed only market beta as a risk factor and not employed macro and firm specific factors to explain the behavior of expected stock returns.Most of therecent researchersStattman (1980),Reinganum (1981), Rosenberg,Reid and Lanstein(1985), Lakonishok and Shapiro (1986), Chan, Hamao and Lakonishok(1991), Fama and French (1992),Patel (1998),Chui and Wei (1998), Rouwenhorst (1998),Fama and French (1998) and Claessens, DasguptaandGlen (1998) reportedthe market beta has little or no ability in explaining the behavior of stock returns and also found that firm sizeand book-to-market equity play significant role in explaining the behavior of stock returns. From this finding, Fama and French (1992) developed a new model in which they added two supplementary risk factors which are firm size and Book to Marketequity to Capital Assets Pricing Model (CAPM). This model is call as FF (Fama and French) three-factor pricing model.

Even though previous studies enough concernedon behaviors of stock returns with respect to firm specific factors in both developed and developing countries, there have been very few of studies in Sri Lankan context {except a few-e.g, Samarakoon (1998);Mahawanniarachchi (2006) and Anuradha (2007)}to assist to financial interested parties to have good knowledgeon behavior of stock returnsdetermine by internal factors such as earnings, dividends, leverage, firm size, book to market equity, right issue and bonus issues.Therefore, the objective of this study is to examine the behavior of stock returns of Sri Lankan companies with respect to two popularly known firm level characteristics: firm size and book-to-market equity. For this purpose, this study is employed multi factor model for yearly data of selected companies listedon Colombo Stock Exchange for theperiod span from 2007 to 2011.

Literature Review

After 1980, the relationship between firm-level characteristics and stock returns is extensively investigated in developed, developing and group of countries. The findings of the literature suggest that there is a significant linkage between firm specific factors and stock returns in the countries examined.

The size effect was first documented by Banz (1981) and Reinganum (1981) who found a return premium on small stocks during the 1936-1975 period for the stocks quoted on the NYSE. The size effect or size premium was later confirmed by Blume and Stambaugh (1983) and Brown, Keim, Kleidon and Marsh (1983) in USA and Australia respectively. The book-to-market equity effect was first documented by Rosenberg, Reid and Lanstein(1985) who found a return premium to stocks with high ratios of book value to market value of equity in US stock markets. This book-to-market equity effect or value premium was confirmed byChan, Hamao and Lakonishok(1991) and Capaul, Rowley and Sharpe(1993) in outside the USA and Davis and Jaznes(1994) in USA. These findings revealed that firm size and book-to-market equity are significantly impact on expected stock returns, negative and positive, respectively.

The first group of the studies covers developed countries. Fama and French (1992) reportedthe market beta has little or no ability in explaining the behaviourof stock returns of selected non-financial firms in USA market and on the other hand, they foundthe variation of cross – sectional stock returns can be captured by two firm characteristics: firm size and book-to-market equity during the period of 1962 to1989. According to Fama and French (1992), the associated risk premiums of firm size and book-to-market equity variables are easily measurable, significantly negative and positive, respectively. Bryant and Eleswarapu (1997) for the periodof 1971 to 1993 and Pinfold. Wilson and Li (2001) for the period of mid-1993 to March 2001,documented thebook-to-market equity effect but has weak size effect in US stocks. On the other hand, Vos and Pepper (1997) reportedstrong size and book-to-market equity effect over the period 1991-1995 in New Zealand, while Li and Pinfold (2000), replicating Vos and Pepper (1997) for the period starting at the end of 1995 to June 1999, did not find book to market effect. Chui and Wei (1998) foundthe book-to-market equity plays a significant role in explaining the cross – sectional behaviour of stock returns in Japanese market.

Andreas and Eleni (2004) empirically tested the FF (1993) three factor model using Japanese data over the period of 1992 to 2001. Theyfoundthatmarket beta, firm size and book-to-market equity havesignificant relationship with expected stock returns in Japanese market. Further, it clearly shownthe market factor has most explanatory power in behaviour of stock returns. The explanatory power of the size factor (SMB) dominates the explanatory power of the book-to-market equity factor (HML) when the testing portfolios consist of small stocks and the opposite occurs when the testing portfolios consist of big stocks.

Second group of studies investigate this relationship for developing market including Sri Lankan Stock Market. Samarakoon (1998) testedthe relation between stock returns and fundamental variables in Sri Lanka, this study employed two methodologies. The first isinformal tests which examined averages returns and averages of fundamental variables for portfolios formed on the basis of size alone, beta alone, and size and beta. The second is a formal asset pricing test which used the Fama-MacBeth (1973) cross-sectional regression procedure. In the formal tests, returns are regressed on β, size, book-to-market equity, leverage, and earnings-price ratio, both individually and jointly, in every month in the cross-section. The results show that, inconsistent with the central prediction of the Capital Asset Pricing Model, the relation between average returns and beta is strongly negative. Firm size and book-to-market equity are not related to average returns in any significant manner.

Drew and Veeraraghavan (2002) presented evidence of firm size and value premium for the case of Malaysia used multifactor model approach. They reportedfactors identified by FF (1993), better explained the variation in stock returns in Malaysia. Drew,Naughton and Veeraraghavan(2003) also reported a firm size effect and a less pervasive book to market effect in the Shanghai stock market. Mahawanniarachchi(2006) reportedthe significant negative relationship between size and individual stock returns and positive relationship between book-to-market equity, market and individual stock returns. Further, it reportedthe size, market and book-to-market equity factors have significant explanatory powers in explaining the Sri Lankan stock returns. Anuradha (2007) also investigated above two most popular factors on stock returns in the CSE and reported the negative size to return relation and positive book-to-market equity to return relation.

Senthilkumar (2009) employed Fama-MacBeth (1973) cross-sectional regression model in selected Indian industries to examine the behaviour of stock returnswithrespect to firm size and market-to-book ratio. They found that no size effect in all the markets and a significant market-to-book effect in all the groups. When the test allow both variables, the negative relationship between size and average return was less significant; the inclusion of market-to-book equity seems to absorb the role of size in selected Indian stock returns.

There is another group of studies that examines the situation for more than one country. Fama and French (1998) and Patel (1998) found a premium for small firms and value stocks in 17 emerging market countries. These results differ from Claessens, DasguptaandGlen (1998) who reported a premium for large firms and growth stocks in earlier sample of 19 emerging markets. Rouwenhorst (1998) revealed the return factors in 20 emerging markets are qualitatively similar to those documented. On the contrary, Chui and Wei (1998) revealed the book-to-market equity can explain the cross-sectional variation of expected stock returns in three out of five Pacific Basin emerging markets, while firm size effectis significant in all markets except Taiwan. Maroney and Protopapadakis (2002) tested the three factor model (FF, 1993) on different equity markets of Australia, Canada, Germany, France, UK and US. The size effect and the value premium survive for all the countries examined. They concluded the size and book-to-market equity effects are international in character. Thestock return haspositive relationship with book-to-market equity and negative relationship with size remains in the model. Mirela and Madhu (2004) investigated the robustness of the three factor model (FF, 1993) for equities listed in three main European markets namely France, German and United Kingdom and paper provided evidence that the beta of the CAPM alone is not sufficient to describe the variation in average equity returns for the three of the markets concerned.

Even though empirical research has been evidence on firm size and book to markets impact in behavior of stock returns in Sri Lankan context, there have been a very few of studies in Sri Lankan stock market {except a few-e.g, Samarakoon (1998); Mahawanniarachchi, (2006) and Anuradha (2007)}. Therefore, the objective of this study is to examine the behavior of stock returns of Sri Lankan companies with respect to two popularly known firm level characteristics: firm size and book-to-market equity, employing multi factor model for yearly data of selected companies listed on Colombo Stock Exchange for the period span from 2007 to 2011.

Data, Hypotheses and Methodology

Sample and Data Collection

This study isused firm size and book-to-market equity as independent variables to examine the behavior of stock returns in Sri Lankan context. Firm size is measured as logarithm of total assets, book-to-market equity as book equity divided by market equity at financial year t and stock return as income plus changes in price divided by beginning price. Data of selected variables have been collected from annual report of selected 35 companies listed on CSEfor the period from 2007 to 2011. The criteria for selecting the companies is that only 40 companies' financial year ended in December around total number of listed companies in CSE. From these 40 companies, 35 companies were selected since its have only available information for this study. Table 1 is shown the selected companies from different sectors listed on CSE.

Table 1:
No of Selected Companies from Different Sectors

Sectors	Number of Selected Companies
Banking, Finance and Insurance	09
Beverage, Food and Tobacco	02
Chemicals and Pharmaticals	01
Construction and Engineering	01
Health Care	01
Hotels and Travels	01
Land and Property	03
Manufacturing	05
Plantation	09
Telecommunication	02
Trading	01
Total	**35**

Hypotheses

The objective of this study is toinvestigate the behavior of stock returnswith two most popular known firm level characteristics: firm size and book-to-market equity in Sri Lankan context. In order to achieve the objective of the study, the following hypotheses have been generated.

H_1: Firm size has negativerole in behavior of stock returns

H_2:Book-to-market equityhas positive role in behavior of stock returns

Methodology

The multiple factor model is adopted in this study to analyzing the relationship between selected firm specific characteristic and stock returns in the emerging Sri Lankan Stock Market.

$$SR_{it} = \beta_o + \beta_1 \ln(TA_{it}) + \beta_2 (BE / ME_{it}) + \varepsilon_t [1]$$

Where: SR_{it} is the stock returnsof i^{th} company for theperiod of t,TA_{it} is the logarithm of total assetsof i^{th} company for the period of tto measure the firm size and BE / ME_{it} is the book-to-market equityof i^{th} company for theperiod of t. βo is the intercept of the regression, β_1 and β_2 are the coefficient of variables and ε_t is the error term of regression.

All estimations have been performed in SPSS software package, whereas the ordinary calculations were done in Excel.

Empirical Results

As a first step, correlation matrix is presented. In the second step, the impact of selected firm specific factors on stock returns is evaluated by estimating equation 1 using multiple regression analysis.

Correlation Matrix

Table 2: Correlation Matrix

Variables	Stock Return	Book to Market Equity	Firm Size
Stock Return	1		
Book to Market Equity	0.181*	1	
Firm Size	-0.085	-0.087	1

* Correlation is significant at the 0.05 level.

Table 2 presents correlation coefficients among selected variables. Here stock return is dependent variable and book to market equity and firm size are independent variables. There is a significant positive weak correlation between stock returnand book to market equityat the 0.05 significantlevel. But there is a negative weak correlation between stock return and firm size and not significant at the 0.05 significant level.Besides, thereis no significant correlation between independent variable.

Multiple Regression Analysis

The results of the multiple regression analysis are in Table 3. It reports that F value is significant at the 0.05 significant level. Therefore at 5% significance level, it can be statistically concluded that the model fits to examine the behavior of stock returns from selected firm specificvariables. The R^2 and adjusted R^2 have less value. Therefore, these coefficients statistically concluded that both selected firm specific factors have very lessrolein behavior of stock returns and other variables which may be other non-selected firm specific variables and macro-economic variables heavily impact on behavior of stock returns.

The hypotheses of the present study are tested with standardized coefficients and significant. H_1 posits that firm size has negative role in behavior of stock returns. The standardized coefficient between firm size and stock returns is -0.070.It is in line with the expected directionbutit is not significant at the 0.05 significant level hence H_1 is rejected. Therefore at 5% significance level, it's statistically concluded that firm size does not have significant role in behavior of stock returns.H_2 posits that Book-to-market equity has positive role in behavior of stock returns. The standardized coefficient between book to market equity and firm size is 0.175 and is significant at the 0.05 significant level hence H_2 is accepted.Therefore at 5% significance level, it's statistically concluded that book-to-market equity has positive role in behavior of stock returns.

Table 3: Multiple Regression Results

Variables	βa
Book to Market Equity	0.175*
Firm Size	-0.070
R^2	0.038
Adjusted R^2	0.025
F	3.075
Prob (F-Statistic)	0.049

Notes =175,aStandardized coefficients,
* Correlation is significant at the 0.05 level.

Conclusions and Recommendations

Firm specific characteristicsare one side of coinimpact on behavior of expectedstock returns. There have been a very few of studies in Sri Lankancontext {except a few-e.g, Samarakoon (1998); Mahawanniarachchi, (2006) andAnuradha (2007)}.Therefore, the aim of this study is to investigate the behavior of stock returns of Sri Lankan companies with respect to two popularly known firm level characteristics: firm size and book-to-market equity for the period span from 2007 to 2011.

Empirical findings reveal that book-to-market equity has a positive role in stock returns while firm size has expected negative direction in behavior of stock returns and not significant.The finding of Book-to-market equity is consistent with the results of Banz (1981), Reinganum (1981), Blume and Stambaugh (1983), Brown, Keim, Kleidon and Marsh (1983),Rosenberg, Reid and Lanstein(1985), Davis (1994), Chan, Hamao and Lakonishok(1991), Capaul, Rowley and Sharpe (1993), Chui and Wei (1998) , Fama and French (1992) and Maroney and Protopapadakis (2002) and also this finding is consistent with the results of Anuradha (2007) and Mahawanniarachchi (2006) in Sri Lankan context.These studies documented significant positive relationship between book-to-market equity and stock returns.But, these previous studies are not consistent with finding of firm size of this study. These studies documented significant negative relationship between size and stock returns. But, the finding of firm size of this study is consistent with results of Samarakoon (1998)in Sri Lankan context, who revealeda firm size is not related to average returns in any significant manner.

This finding implies that firm size is not significant factor in decision making of different interested parties of companies. For an example, Investors can invest in small or large firms which have high ratios of book-to-market equity because findings of this study reveal that no relation in the economy between firm size and return, and positive relation between firm book-to-market equity and return. Also the findings of this study is not prove modern financial theory prediction that when there is no relation in the economy between firm size and return, there will be a negative relation between firm book-to-market value and return.

The limitations of this study are that even though there are plenty of sources determine the behavior of expected stock returns, this study has only employed two popularly known firm level characteristics to examine the behavior of expected stock returns and covers only six years' annual data of35 companies listed on CSE.Thus, future researchers can investigate the behavior of stock returns by employing macroeconomic variables and other firm specific variables with consideration of long time period, large sample and take another methodology to vast analysis on this topic in order to obtain a better insight about the return generation process. Further, they can use various frequencies data setsuch as daily, weekly and quarterly.

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Liquidity and Capital Structure: Evidence from Sri Lanka

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Abstract: In the corporate finance, the decision on the capital structure and its components is viewed as one of the most extensively researched area. In this context, researchers carried out the study on liquidity and capital structure in the Sri Lanka Telecom Plc. Data on the Liquidity and Capital Structure from the year 2005 to 2011 were collected for the study purpose. Regression analysis was used to answer the research question as what extent the Liquidity influences on Capital Structure of the Sri Lanka Telecom Plc. Findings reveled that, the decision making on the capital structure is highly depending on the liquidity management of the Sri Lanka Telecom Plc. Due to that, the firm should focus on the liquidity management to take the decision on the capital structure which should lead to the firms value in the long term perspective.

Keywords: Capital Structure, Liquidity, and Sri Lanka Telecom Plc

Back Drop of the Study

In the corporate finance, the decision on the capital structure and its components is viewed as one of the most extensively researched area. Capital structure refers to the way a firm is financing its assets through a combination of equity and debt. It can be measured as the ratio between debt and total of equity and liabilities (Kajanathan, 2012; Sarlija and Harc ,2012). On the other hand, Liquidity management is vital for firms, where a major part of the assets is composed of current assets. It directly affects the profitability of the firms. Also profitability liquidity tradeoff is important because if working capital management is not given due consideration then firms are likely to fail and face bankruptcy (Raheman, Afza, Qayyum and Ahmed bodla, 2010; Raheman and Nasr,2008). In this context, the working capital is known as life giving force for any economic unit and its management is considered among the most important function of corporate management. Due to that, every organization whether, profit oriented or not, irrespective of size and nature of business, requires necessary amount of working capital for smooth functioning of the organization. Working capital is the most crucial factor for maintaining liquidity, survival, solvency, and profitability of the business (Raheman et al., 2010; Mukhopadhyay, 2004).Based on the research findings on the liquidity and capital structure, the positive significant relationship has been found. Meantime, the liquidity has the influence on the capital structure in the different countries context (Sarlija and Harc, 2012; Khalaj, Farsian and Karbalaee ,2013; Uremadu, 2012; Anderson and Carverhill, 2010).

In Sri Lanka, Sri Lanka Telecom is one of Sri Lanka's most valuable blue chip companies with an annual turnover in excess of Rs 50 Billion. Sri Lanka Telecom is the nation's number one integrated communications service provider and the leading broadband and backbone infrastructure services provider in the country. Listed on the Colombo Stock Exchange, the company's market capitalization as at 31 December 2011 topped Rs 87 Billion (Annual Report, Sri Lanka Telecom Plc, 2011). Based on it, as researchers, we have to check the strength of the decision making aspects of the Sri Lanka Telecom Plc in the capital structure context. Therefore, the decision on the capital structure is the complex. It means, on what basis, the debt and equity should be utilized to get the profit in terms of the return on assets or equity. Meantime, survival is also depending on the capital structure decision. Further, in the income perspective, if income, derived from the use of debt, is greater than the cost of capital, then it can be said that using debt is a good financial decision. However, it still remains an open question whether it is better to use internal sources of financing or to use external sources and pay for compensation in the form of interest rates (Sarlija and Harc ,2012).

- To suggest the Sri Lanka Telecom Plc to formulate the better policy frame work in the capital structure with liquidity management to get the organizational objectives as survival and solvency.

Theoretical & Empirical Review and Hypotheses Development

There are some thoughts in the capital structure in the theoretical context. In this way, in the traditional way, Barges (1963) stated that, debt capital is cheaper than equity. The implication of this assertion is that the cost of debt plus the increased cost of equity together on a weighted basis will be less than the cost of equity that existed on equity before debt financing (Olayinka, 2011). Secondly, we have viewed the Modigliani and Miller (1958) theory; they noted that, instruments issued by the firm do not affect a firm's productivity and value. In contrast, trade off theory stated that, since interest payments are tax deductible, raising more debt increases the tax benefits. However, an increase in debt equally increases the probability of default and hence the expected cost of bankruptcy (Olayinka, 2011). Further, Pecking order theory noted the facts interestingly, that corporate managers know more about their company's prospects, risk and value than do outside investors. According to the theory, companies prefer to finance their projects from internally generated cash flows (Myers and Majluf, 1984; Olayinka, 2011). Signaling effect theory, this has been proposed by Ross (1977). He stated that investors believe higher levels of debt will imply higher quality and higher future cash flows. This means that lower quality firms with higher expected costs of bankruptcy at any level of debt cannot follow the steps of higher quality firms by incurring more debt. Furthermore, there are no universal theory of debt-equity choice and no reason to expect one. All the same, there are several useful conditional theories, each of which helps to understand the financial structure that firm's choose (Olayinka, 2011).

Based on the theoretical review, we have come to the fact that, the theories in the capital structure are in the inconclusive trend. Due to that, we reviewed the recent studies on the capital structure and liquidity in the different industrial sectors.

Olayinka (2011) examined the determinants of capital of 66 firms listed on the Nigerian stock Exchange during the period 1999-2007 using panel data. The results show that there is a negative relationship between leverage and growth opportunities, leverage and tangibility, but positively related to liquidity as well as size. This negative coefficient shows that growing firms do not use debt financing. The results suggest that leverage is negatively correlated with profitability which is quite consistent with the pecking order theory. In the same way, leverage and size are positively related. This finding supports the view of size as an inverse proxy for the probability of bankruptcy. Liquidity is positively correlated with leverage which is consistent with trade-off theory.

Sarlija and Harc (2012), conducted the study on a sample of 1058 Croatian firms the aim of this study is to investigate the impact of liquidity on the capital structure of Croatian firms. Results revealed that there are statistically significant correlations between liquidity ratios and leverage ratios. Also, there are statistically significant correlations between leverage ratios and the structure of current assets. The relationship between liquidity ratios and the short-term leverage is stronger than between liquidity ratios and the long-term leverage. The more liquid assets firms have, the less they are leveraged. Long term leveraged firms are more liquid. Increasing inventory levels leads to an increase in leverage. Furthermore, increasing the cash in current assets leads to a reduction in the short-term and the long term leverage.

Khalaj, Farsian and Karbalaee (2013) investigated the linkage between liquidity and capital structure among the top 100 Malaysian public listed companies from 2006 to 2010 fiscal years. Liquidity of a firm, which is the independent variable of research, has been measured by different ratios. Research finding shows that there is a significant relationship liquidity ratios and leverage. This relationship is consistent with the findings of prior researches in developing and developed countries like the United States and Thailand. According to the results, Malaysian firms with more liquid stocks prefer equity to enjoy lower cost of capital.

Uremadu (2012) investigated the effect of bank capital structure and liquidity on profitability using Nigerian data for the period 1980-2006 studied. Research findings revealed that the positive influence of cash reserve ratio, liquidity ratio and corporate income tax; and a negative influence of bank credits to the domestic economy, savings deposit rate, gross national savings, and balances with the central bank, inflation rate and foreign private investments, on banking system profits. He equally observed that liquidity ratio leads banks' profits in Nigeria, closely followed by balances with the central bank and then, gross national savings and foreign private investments, followed suit in that order. he therefore recommend a drastic reduction in balances with central bank, liquidity ratio and cash reserve ratio profiles by the monetary authorities to enable banks create adequate credits and release more money into circulation for effective financial intermediation to occur; ensure effective and efficient management of bank liquidity by banks to moderate levels so as to optimize profitability, and curb perennial unethical banking practices such as directly engaging in trading, importation and exportation of goods, and other speculative deals, instead of lending to the domestic economy.

Sibilkov (2007) has investigated the study on the effect of asset liquidity on capital structure. Using data from a broad sample of U.S. public companies, he found that leverage is positively related to asset liquidity. Further analysis reveals that the relation between asset liquidity and secured debt is positive, whereas the relation between asset liquidity and unsecured debt is curvilinear. The results are consistent with the view that the costs of financial distress and inefficient liquidation are economically important and that they affect capital structure decisions. In addition, the results are consistent with the hypothesis that the costs of managerial discretion increase with asset liquidity.

Anderson and Carverhill (2010) have jointly focused the study on the liquidity and capital structure. Results revealed that firm's policy toward liquid asset holding is closely connected to the question of the firm's capital structure. In particular, results show that higher levels of long- term debt will result in higher levels of liquid asset holding and a reduction in the optimal use of short-term debt. The value of the firm is rather insensitive to the long-term debt level outstanding. The reason is that by adapting its liquidity policy appropriately, the firm is able to balance its various contracting frictions in such a way as to achieve approximately the same value of the firm for a wide range of long-term debt levels.

Velnampy (2005) noted that, each organization is employing a lot of money in various projects. Its success is depending on the ability to generate profitability. Hence the profitability and return on investment of the firm should be assessed. Thus, the study is made to evaluate worth wild of investment employed in the Toddy bottling project of palmyra and coconut development society of Sankani , Sri Lanka. Sophisticated and nonsophisticated techniques can be used to appraise the project. In the study, Net Present Value, Internal Rate of Return as well as actual and budget comparisons are made to evaluate the investments and efficiency of management. The study revealed that Toddy bottling projects is profitable and worthwhile. But the project fails to achieve the budgetary outcomes.

Velnampy and Nimalathasan (2009) stated that the banking organizations, today, is moving towards the goal of integrated financial services because of the strong competition and quick changes of technology. In developing countries like Sri Lanka, banking organizations provide fund for other organizational developments. Financial system of a country is broadly the mechanism in the financial market which deals with the business or transactions in money .The financial sector in every country has become the deciding factor of the economy. The study is initiated an association between organizational growth and profitability of virtually all of the Banks' branches of Commercial bank of Ceylon Ltd in Sri Lanka with 10 years accounting period: 1997-2006. Return on Average Assets , Return on Average Share holders are significantly associated with number of advances and number of depositors and sales are correlated with all profitability ratios except ROE and ROI. Further organizational growth has a greater impact on all profitability ratios.

Velnampy (2013) pointed that corporate governance is about putting in place the structure, processes and mechanism that ensure that the firm is being directed and managed in a way that enhances long term share holder value through accountability of managers and enhancing organizational performance. In a way, the study is initiated on "corporate governance and firm performance" with the samples of 28 manufacturing companies using the data representing the periods of 2007 – 2011. Board structure, board committee, board meeting and board size including executive directors, independent non-executive directors, and non executive directors were used as the determinants of corporate governance whereas return on equity and return on assets were used as the measures of firm performance. The study found that determinants of corporate governance are not correlated to the performance measures of the organization.

Kajanathan and Achchuthan (2013) have jointly examined to find out the impact of corporate governance practices on Working capital management. Twenty five listed manufacturing firms were selected as sample size in Colombo Stock Exchange for the period from 2007 to 2011. Multiple Regression Analysis was utilized to find out the significant impact of corporate Governance practices on the Working Capital Management. The results revealed that there is a significant impact of corporate Governance practices on current liabilities to total assets in working capital management. In contrast, the cash conversion cycle and the current assets to total assets are not influenced by the corporate governance practices. Based on the findings, researchers recommended to the policy makers in the corporate governance practices to establish the models of corporate governance that must be suitable to the manufacturing sector in Sri Lanka to ensure the survival, solvency, and profitability of the business.

Based on the above literature, the following hypotheses are taken for the studies.

H1: There is a significant impact of current ratio on the Debt to Equity in the capital structure.

H2: There is a significant impact of quick ratio on the Debt to Equity in the capital structure.

H3: There is a significant impact of liquidity ratio on the Debt to Equity in the capital structure.

Methodology

Data collection

Secondary data which are collected from the Sri Lanka Telecom Plc's Annual Reports have been utilized in this study. Further, textbooks, journals, magazines in the liquidity and capital structure perspective were utilized for this study.

Sample

This study was conducted to Sri Lanka Telecom Plc, especially on the Liquidity and Capital Structure. Data on the Liquidity and Capital Structure from the year 2005 to 2011 were collected for the study purpose.

Data analysis method

Time series analysis was carried out to identify the trends over the last seven years on the liquidity and capital structure of the Sri Lanka Telecom Plc. Importantly, regression analysis is used to answer the research question as what extent the Liquidity influences on Capital Structure of the Sri Lanka Telecom Plc?. (SPSS- 16 version has been utilized in this study).

Design of the variables

The following table gives a clear picture regarding the variables and measurements used in this study.

Table 1: Design of the variables

Variables	Measures	Symbols
Liquidity Ratio		
Current Ratio	= Current Assets (CA)/ Current Liability(CL)	CR
Quick Ratio	= [Current Assets- Inventory]/ Current Liability	QR
Liquidity Ratio	= [Cash in hand + Short Term Investment]/ Current Liability	LR
Capital structure		
Debt equity Ratio	= Total debt/ Equity	DER

Results and Interpretation

Descriptive Statistics

Table 2: Descriptive Statistics

Variables	Mean	Range	Standard Deviation	Co-Variance
Current Ratio	1.25	1.00	0.430	0.185
Quick Ratio	1.17	1.01	0.425	0.181
Liquidity Ratio	0.89	2.71	0.953	0.909
Debt Equity Ratio	0.28	0.21	0.797	0.006

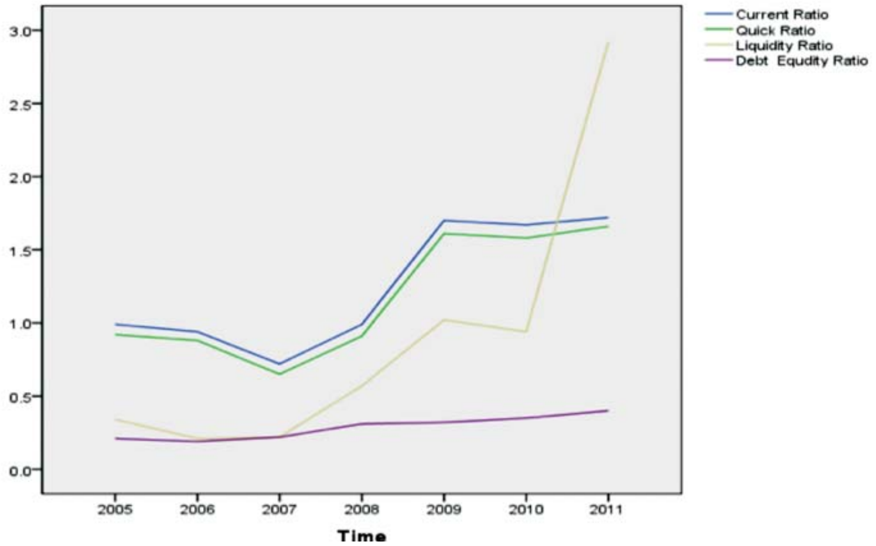

Figure 1: Time Series Analysis

In this study, the Liquidity is considered as the independent variable, which was measured by the three key ratios as current ratio, quick ratio and liquid ratio. Meanwhile, capital structure is viewed as the dependent variable, in which the debt equity ratio is used to determine the dependent variable as capital structure.

Models of the Study

In this study, Capital Structure is a function of the current, quick and liquidity ratio in the liquidity management.

$$Y_i = \beta_o + \beta_1 X_{1i} + \varepsilon_i$$

According to the above model and hypotheses development, we can construct the new research models for the study.

$$CS = \beta_o + \beta_1 CR + \varepsilon_i \text{ ……….. (1)}$$
$$CS = \beta_o + \beta_1 QR + \varepsilon_i \text{ ……….. (2)}$$
$$CS = \beta_o + \beta_1 LR + \varepsilon_i \text{ ……….. (3)}$$

Where:
β_o = Intercept
β_1 = Population slope
CR: Current Ratio (independent Variable)
LR: Liquidity Ratio (independent Variable)
QR: Quick Ratio (independent Variable)
CS: Capital Structure (Dependent variable)
ε_i = Random Error

Based on the descriptive statistics and Trend serious Analysis:

Liquidity management of the Sri Lanka telecom Plc, Generally, current ratio represents the ability to solve the short term obligations. In our study, Sri Lanka telecom plc has the adequate current assets to solve the short term obligations (based on the mean value as 1.25). In contrast, the standard notes that, the ideal ratio should be 2:1 (Charted Institute of Management Accountants, Improving cash flow using credit Management 2010). In the Quick ratio, based on the standard, ratio should be 1.5: 1, but, in our case, the quick ratio represents value as 1.17. More or less, the ratio is in line with standard. Meanwhile, the inventory component in the current assets is limited in the Sri Lanka Telecom Plc. When we compare the current and quick ratio in our study, we are able to identify the small piece of difference between the two ratios; further, the difference between the two ratios as current and quick ratio represents the inventory value. Furthermore, the difference between the current, quick, and liquidity ratio are limited, based on it, we can come to the fact that, the highly liquid assets have been maintained in the current assets of the Sri Lanka Telecom Plc . In overall, more or less, the liquidity position of the Sri Lanka Telecom Plc is in the satisfactionary one.

Capital structure measurement as debt to equity ratio has the value as 0.28; it means that, the 28 % of the debt is maintained in the capital employed (Based on the mean value). Further, in the figure 1, we also can see the debt to equity ratio trend, there is no big fluctuation in the figure. Mean while, the standard deviation and rage of the debt to equity hold no big fluctuation in the last seven years from 2005 to 2011 (the standard deviation and rage of the debt to equity as 0.797, 0.21 respectively). In the liquidity management, the liquidity ratio has been fluctuated over the last seven years from 2005 to 2011. Meantime, other ratios as current and quick have not been fluctuated than the liquidity ratio. Based on it, researchers are able to come to the fact that, the decision on the high liquid assets has been changed dramatically for the last seven years.

In the regression analysis, the basic assumption as the multi co linearity problem should be tested. Because, there is a high chance to the multi co linearity problem in our study, in which, liquidity, quick and current ratio have the same elements as current assets and liability themselves. Based on it, we have done the test that, whether the auto correlation problems are in the study or not. The answerer was, yes, researchers have identified the auto correlation problem (Based on the Variance Inflation Factor and Tolerance Test). Therefore, researchers created the separate models for the independent variables as current, quick and liquidity ratios with the dependent variable as debt to equity in the capital structure.

Regression Analysis

The purpose of Regression analysis is to find out the impact of Liquidity on the capital structure.

Table 3: Presents the results of the Regression analysis.

Model	Model Summary			
	R Value	R Square	F value	Sig
Model 1	0.845	0.713	12.447	0.017
Model 2	0.845	0.713	12.441	0.017
Model 3	0.838	0.703	11.836	0.018

Based on the separate models, all the ratios in the short term solvency as current, quick, and liquidity ratios have the significant impact on the debt to equity in the capital structure. Further, all the dimensions are in the significant level as 0.05. Meantime, the predictor power of the liquidity management ratios are in the greatest level. All are beyond the 70 %. Due to that, we are able to come to the fact that, the decision making on the capital structure is highly depending on the liquidity management of the Sri Lanka Telecom Plc.

Based on the model 3, the cash holdings in the Sri Lanka Telecom Plc have the significant impact on the debt to equity in the capital structure. It means that, decision on the capital structure is highly depend on the high liquid assets as cash and cash equivalents (more than 70 % impact which has been found).

Therefore, H1, H2 and H3 are accepted. It means that:

- There is a significant impact of current ratio on the Debt to Equity
- There is a significant impact of quick ratio on the Debt to Equity

There is a significant impact of liquidity ratio on the Debt to Equity

Conclusion

Based on the overall study, researchers are able to come to key point that, the decision making on the capital structure is highly depending on the liquidity management of the Sri Lanka Telecom Plc. Further, in supportive way, Olayinka (2011) has stated that, the leverage and liquidity are positively correlated in the Nigerian perspective. Further, Sarlija and Harc (2012) have jointly stated that, there are statistically significant correlations between liquidity ratios and leverage ratios. Also, there are statistically significant correlations between leverage ratios and the structure of current assets in the Croatian firms.

Generally liquidity problems are solved by the debt fund or equity fund or even combination of the both. But, the question is, which way is the best one in the Sri Lankan Context. If the firm uses the debt fund to solve the short term solvency problem, the interest expenses will be paid to the investors, which will create the problems in the financial expenses of the firm. Meantime, in the Sri Lanka, the inflation and interest rate are considered as the problematic ones to the economic growth in the long term perspective (Velnampy and Achchuthan, 2013: Central Bank Reports, 2012). In contrast, if the firm uses the equity fund to solve the liquidity problem, dividend expenses will be considered as the cost. Overall, all the circumstances depend on the profitability of the firms. Especially, in the Sri Lanka Telecom Plc perspective, the profitability in terms of the return on assets and return on equity should be focused systematically with capital structure and liquidity management. Further research should be approached to answer the questions as which source, whether the debt fund or equity fund create the firm value in the telecommunication industry in Sri Lanka.

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Effectiveness of Aid Coordination Initiatives; An Aid Operators' Perspective

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Abstract: The debate on aid effectiveness has evolved into the core of multilateral and bilateral assistance. Proliferations of donors and aid fragmentation have caused tangible difficulties on achieving aid effectiveness. Though ample of global and country level aid coordination initiatives targeting aid effectiveness are getting momentum, aid operators seem to be not scientifically convinced to commit to the aid harmonization and alignment. This research sought to study the effectiveness of aid coordination on effective and efficient implementation aid programmes by the aid operators. Twenty one randomly selected organizations were studied and it has been found that an aid operating organization will achieve higher degree of aid effectiveness if it implements the aid with higher degree of harmonization and alignment.

Keywords: Aid, Development Assistance, Aid Effectiveness, Coordination

Introduction

Foreign aid is a topic that has attracted much attention in academic and policy circles for more than half a century. (George Mavrotas and Espen Villanger, 2006).

In 2011, the most recent year for which complete data is available, the Organization for Economic Co-Operation and Development (OECD) reports that 45 Countries and 22 multilateral organizations disbursed Official Development Assistance (ODA), the most widely recognized category of foreign assistance. More donors are giving ODA than in decades past, and, until recently, many donors were spreading their assistance across a growing number of recipients. (Leonardo Lawson,M, 2013). Almost all developing countries receiving ODA have consequently hosted large number of, both bilateral and multilateral donors and aid operators. Number of ODA projects has been steadily increasing regardless of occasional decline in ODA (Kihara, T. 2012). The rate of increase has been accelerating since 1994, and reached 96,000 projects in 2007 (Leonardo Lawson,M, 2013). However, since 1991 the average amount of aid per project has declined sharply, to $1.77 million in 2007 which indicates that many projects with relatively small average amounts of ODA have been operating in many developing countries including Sri Lanka, which indicates that the number of countries and sectors a donor assists have been "proliferating" and amounts have become "fragmented." (Kihara, T. 2012).

To meet the effectiveness challenges of this widespread aid architecture, the OECD-DAC initially set new priorities for foreign aid, it promoted the increasingly broader adoption of the International Development Targets which later laid the foundations for the creation of the Millennium Development Goals (MDGs).

From the First High Level forum organized by United Nations in Mexico in 2002 to the Fourth High Level Forum on Aid Effectiveness which concluded with Busan Partnership for Effective Development Co-operation in 2011 in Busan of Korea, multilateral and bilateral donors and aid recipient countries of globe have committed to various initiatives to rationalize the aid environment (Karel Verbeke and Evert Waeterloos, 2010) and coordinate donor actions with the objective of improving effectiveness of aid.

Regardless of whether any such aid effectiveness initiatives actually yield, most of them are laid down at the strategic level rather than being focused at the bottom-level of aid implementation. This scenario is observed to result in a gap between the macro level observance of aid effectiveness standards and beneficiary level impacts on development. This situation is also sometime referred to as Micro-macro paradox. Parameters of aid coordination initiatives therefore need to be tested with respect to their ability to support to the aid operators (which here refer to the non governmental agencies whether national or foreign agencies who implement the donor assistance to the end beneficiaries) who bring the aid down to level of beneficiaries. This research therefore primarily targets to investigate the effectiveness of aid coordination initiatives especially in the contexts of aid operators

Review of Literature

Aid effectiveness has become a central notion in the lexicon of the aid industry.(Daniel Kaufmann, 2009) and it also now evolved into a vital account of public management and good governance especially in the contexts of developing countries. Though many global and country level initiatives are in motion to achieve aid effectiveness agenda, it is extremely difficult to establish scientifically whether development aid actually works. Yet, it is commonly assumed that aid has often yielded positive results, a large number of aid effectiveness studies of recent years concludes that foreign aid results in no effect on growth or any other indicators of poverty, (Boone 1996; Svensson 1999, 2000; Knack 2001; Brumm 2003; Ovaska 2003; Easterly et al. 2004; Djankov et al. 2006a; Easterly 2006a; Powell and Ryan 2006; Williamson 2008). This result has caused frustration in the aid community. (Karel Verbeke and Evert Waeterloos, 2010).

However, Svensson (1999), Collier and Dollar (2002), and Burnside and Dollar (2000, 2004) do find a positive effect of aid on growth when combined with the good policy and institutional environments. Leeson (2008) explains that aid ineffectiveness in most of the developing countries is because of the weak institutions and bad policies, contributing to why they are poor. Although the recipient countries were initially pointed for such failure of foreign aid, the donor community has over the past decades increasingly acknowledged its own role in rendering aid ineffective. (Karel Verbeke and Evert Waeterloos, 2010).

One of the major challenges in recent aid trends is the "proliferation" of aid provided and the "fragmentation" of aid receipts. It is believed that these prevent aid from achieving its attempted development impacts. (Kihara,T, 2012). The OECD (2009) indicated that "aid that comes in too small slices from too many donors, creating unnecessary and wasteful administrative costs and making it difficult to target funds where they are needed most".[11] OECD (2009). p. 2 Acharya et al. (2006) argues that aid often underperforms when it is channelled through too many institutional channels. Aid proliferation (an increase in the number of donors to a specific recipient country) and aid fragmentation (an increase in the number of projects and a decline in the amount per project) results in huge transaction costs and for both recipients and donors. Kihara (2009) also confirmed the negative effects of aid proliferation and fragmentation on government effectiveness (bureaucratic quality), and its negative impacts on GDP per capita growth .

Easterly (2006) points out that in a situation where there are many donors involved, it is hard to decide who is accountable. This can weaken incentives of donor organizations. It is hard to allocate responsibility, which means that it is harder to introduce corrective action.

The official donor aid community therefore subsequently has become committed to improve aid effectiveness through better coordination mechanisms (Daniel Kaufmann, 2009) which evolved through such various international cornerstone initiatives. These include Monterrey Consensus on Financing for Development organized by the UN in Mexico in 2002 and the High Level Forum on Aid Effectiveness in Rome, which is also known as Rome Declaration on Aid Harmonization, organized by DAC in 2003 where donors declared and endorsed three principles of the ownership, harmonization and alignment. Most importantly, the second High Level Forum on Aid Effectiveness in 2005 resolved in the Paris Declaration on Aid Effectiveness ratified by more than 40 donors and 60 recipients. Paris Declaration on Aid Effectiveness introduced two new principles of "results-based management" and "mutual accountability" which complemented the three principles of the Rome Declaration. The adherence of donors and recipient countries to the consented aid effectiveness principles were monitored with indicators with specific targets by 2010. Consequently, in September 2008, Ghana's capital Accra hosted the third High Level Forum on Aid Effectiveness. The main objective of the forum was to review progress on the implementation of Paris Declaration and to draw lessons for further actions. The final document, the Accra Agenda for Action, therefore is considered as a supplement to the Paris declaration with concrete indications and directions to attain the objectives thereof.

However, the "Accra Agenda for Action" resolved in the third High Level Forum in Accra in September 2008, was commented to be much more inclusive than the previous ones, significantly broadening Civil Society Organizations' participation and giving them voice. (Daniel Kaufmann,2009). This resolution fostered not only the donor aid transparency but also civil society engagements in aid governance.

Recently, from 29 November to 1 December 2011, over 3000 delegates convened in the Fourth High Level Forum on Aid Effectiveness to review progress on implementing the principles of the Paris Declaration. The forum emended up with the "Busan Partnership for Effective Development Co-operation". This declaration is said to have, for the first time, established an agreed framework for development co-operation that embraces traditional donors, South-South co-operators, the BRICS nations, civil society organisations and private funders.

Based on 50 years of field experience and research, the five principles that were agreed at these fora encourage local ownership, alignment of development programmes around a country's development strategy, harmonisation of practices to reduce transaction costs, avoidance of fragmented efforts and the creation of results frameworks.

The stated purpose of foreign aid , as envisioned by all such global initiatives, is to promote economic and human development (Claudia R. Williamson,2009). An aid is said to be effective if it positively impacts on improving the standards of life and or contribute to eradicate human sufferings. The concept of aid effectiveness can however take many different meanings. From a donor perspective, effective aid could mean the aid that helps the donor achieve its own goals, which do not necessarily have to be altruistic. (Arne Bigsten and Sven Tengstam, March 2012). An achievement of the goals of the donors and aid operators with respect to a given assistance, if they are not altruistic, can be an another side of the coin of aid effectiveness. This implies that aid effectiveness can also be targeted by actual outcome based implementation of aid programmes.

Nevertheless, donors' proliferations, fragmentation of aid among an increasing number of recipients and conflicting rationales of assistance have caused tangible difficulties in achieving the objectives of many aid progarmmes in the globe. If the donors and aid operators can sincerely commit to the aid coordination initiatives as promoted in the aid effectiveness agendas, many of such difficulties can be expected to be remedied. But in contrast, regardless of the aid coordination initiatives taking momentum at global and country level, aid operators that implement the aid to the end-beneficiaries are yet to be scientifically convinced to commit to the aid coordination mechanisms. There still prevail reservations among aid professionals whether aid coordination matters on aid effectiveness.

There are numerous arguments for the reasons why the donors/aid organizations are not coordinating. Andreas Fuchs et al, 2013 argues that competition for export markets and political support prevents donor countries from closer coordination of aid activities.

Not all foreign aid professionals or aid operating organizations are bothered about the growing number of donors in many developing countries or the importance of coordinated aid. Some contend that the wide variety of independent donors is valuable in demonstrating pluralism in action and reflecting the decentralization of authority that many development plans promote. Others argue that having a range of active donors leads to more ideas, competition, and innovation, as well as a more consistent flow of funding. Some development professionals believe donor coordination is the responsibility of recipient governments, not donors, and that while it may be frustrating to donors when host government officials do not act in concert, failure to coordinate often reflects political and policy differences that must be worked out by the host officials through internal political processes. Others question whether they warrant the time consuming task of donor coordination, particularly in countries for which aid is not a major component of the national budget. In the context of recent international development forums, however, donor and recipient countries alike have expressed widespread agreement on the desirability in principle of greater donor coordination and consolidation of foreign assistance activities to address fragmentation concerns (Marian Leonardo Lawson, 2013)

Yet, almost half of donors surveyed for the Paris Declaration implementation evaluation in 2008 reported facing significant domestic political and institutional obstacles to establishing coordinated aid arrangements. Among the recurring obstacles are difficulties related to division of labor, concerns about direct budget support, personnel disincentives, lack of interagency coordination, and conflicting strategic interests. (Marian Leonardo Lawson, 2013)

Both donors and aid recipients are spending considerable resources on aid coordination activities. The trend seems to be towards an increase in these levels, yet relatively little is known about the outcomes and impact of these efforts. In particular, there does not seem to be much of a strategy in place for how to improve the effectiveness of the aid coordination resources themselves. (Arne Disch, 2013)

Arne Bigsten and Sven Tengstam (2012) points out it is not clear that there is in aggregate a trend towards increasing harmonization but the need for coordination is strongest when resources are transferred through the recipient government's apparatus

On the other hand, the primary argument of coordination proponents is that aid effectiveness is becoming increasingly undermined by duplication of efforts, imbalanced aid distribution, omissions, donor competition, cross- purposes, loss of scale, administrative burden, unclear leadership etc. These defects can be addressed if an effective coordination is in force. Many experts also believe that improved coordination among donor governments and multilateral aid organizations could make global development assistance more efficient and effective.(Marian Leonardo Lawson, 2013). Gaspart and Platteau (2011) argues that a reduction in donor competition which leads to aid inefficiency can be achieved through enhanced coordination

Aid coordination is a major idea of international development cooperation agreements of the last decade. Aid effectiveness agenda hence promotes a coordinated approach on the allocation and implementation of development assistance. Such initiatives resolve the aid to be *inter alia* "aligned" and "harmonized" respectively with recipient's development strategies and the donors in similar actions.

The Paris Declaration had for first time represented a broader consensus among the international community about how to make aid more effective by their commitment to the following five key principles.

- Ownership: developing countries must lead their own development policies and strategies and manage their own development work on the ground
- Alignment: Donor countries align behind the development strategies of the recipient country and use local systems.
- Harmonization: Donor countries coordinate, simplify procedures, and share information to avoid duplication.

- Results: Developing countries and donors shift focus to development results and results get measured.
- Mutual accountability: Donors and partners are accountable for development results, both to each other and to their constituencies.

Out of the above principles of Paris Declaration, Aid harmonization and Aid Alignment do however require donor driven actions than it is driven by aid recipients. Aid alignment makes an aid coordinated with recipient's system while the aid harmonization gets the donors coordinated within them.

Research problem

The donors or their agents, aid operators and the recipient government should trade off in the aid coordination to make the aid effective in terms of its real development outcome. For example the aid harmonization and alignment may be advocated for an aid effectiveness mission in a given recipient country. At the same time, due to poor coordination and aid governance structure in that country, aid coordination may not be optimal for the aid operating agency (e.g I/NGO) for delivering the aid timely, efficiently and in a pragmatic and programtic manner which might be crucial for the success of the aid. Thus, aid effectiveness can not only be evaluated by the direct impact on human development, but also can be targeted by the effective and efficient accomplishment of the aids programmed with such human development goals. This is an aid operators' perspective of aid effectiveness.

This paper takes this aid operators' perspective and investigates the effectiveness of the aid coordination to achieve the targeted aid outcome of the aid operators. It is assumed here that aid operators and or the donors are not altruistic and are objectively committing to the development needs of the aid recipient. This angle of the aid effectiveness investigation to my knowledge is novel and significant in revisiting the grass root- functionality of aid effectiveness initiatives.

The above arguments arises a hypothetical question whether the aid effectiveness/coordination initiatives are important to aid operators to effectively deliver the aid. This paper is developed primarily to address this research question.

Research Objective

The primary objective of this paper is to investigate the effectiveness of aid coordination from the perspective of an aid operator. That is to say, to investigate the relationship between degree of aid coordination of aid operators and the ability of the coordination to assist the aid operators to effectively and efficiently implement the aid programmes.

This paper also aims to address the problem in relation to the famous aid effectiveness/coordination initiatives of aid harmonization and alignment which are the two important donor driven efforts constituted by Paris Declaration.

Design and Methodology

The dependent variable of this research is effectiveness of aid coordination (ACe).The Effectiveness of aid coordination in this research means the extent to which the aid harmonization and alignment were leading to aid effectiveness. Aid effectiveness here implies the degree to which aid operators were enabled by aid coordination (harmonization and alignment) to successfully meet aid programme parameters (APP) of targeted time, budget, measureable output and intended aid outcomes.

$$(AHe, AAe) \rightarrow ACe$$

Degree of Aid Coordination (AC_d) is here defined as the extent to which the aids are both aligned with the national systems and harmonized with the other aid organizations. Thus, the AC_d carries again two elements of Degree of Aid Harmonization (AH_d) and the Degree of Aid Alignment (AA_d).

$$(AHd, AAd) \rightarrow ACd$$

Degree of aid alignment (AAd) and the Degree of aid harmonization (AAd) were measured by the attitudes of the aid operators to be aligned respectively with the government institutions and other aid operation in action, with respect to beneficiary approval, consultations and advices, technical assistance, sharing information and procurement of goods and services.

Data was collected through structured questionnaire which employed likert scale questions. Each construct's reliability was tested with Cronbach's Alpha values which are summarized as below.

Reliability Statistics

Constructs	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
AAe	.741	.750	4
AHe	.863	.866	4
AAd	.729	.744	5
AHd	.774	.761	5

Data reduction technique was employed with principle component and factor analysis. The following table summarizes number of factors extracted with respect to each construct to explain more than 70% of the cumulative variance which is enough to explain the respective variables.

Total Variance Explained

Constructs	Number of variables extracted	Cumulative variance explained
AAe	2	79.224
AHe	1	71.609
AAd	2	75.253
AHd	2	80.318

Reduced scales were correlated using person product moment correlation. This research was conducted in the Ampara district which experienced relatively large presence and interventions of aid agencies. 57 national and international organizations that were active in aid operation in the research district 28 organizations (nearly 50% of the population) were randomly selected out of which 21 organizations replied. Replied organizations constitutes to 75% of the population.

Research Findings

Effectiveness of aid alignment has significant positive relationship with degree of alignment (r= 0.615, p=0.003< alpha = 0.05). This indicates that when aid operators coordinates and align their aid programme with national systems, priorities and institutions, they have been enabled to implement the aid programme successfully to meet its parameters.

Effectiveness of aid harmonization has also recorded a significant positive relationship with degree of harmonization (r= 0.625, p=0.002< alpha = 0.05). This indicates that when aid operators coordinate and harmonize their aid programme with other relevant aid operators (may be working in same sector for the same beneficiaries), they have been enabled to implement the aid programme successfully to meet its parameters.

Correlations

		(AAe)	(AHe)	(AAd)	(AHd)
AAe					
	r	1	-.186	.615**	-.108
	P-Value		.421	.003	.641
AHe	r		1	.198	.625**
	P-Value			.389	.002
AAd	r			1	.261
	P-Value				.254

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

At the same time, no statistically significant relationship is found between the degree of Aid Harmonization and the degree of aid alignment. This finding implies that the degree of aid harmonization is independent from that of alignment. Thus, the organizations that are highly harmonized with other aid counterparts are not always likely to be an organization highly aligned with the national systems and *vice versa*. The degree of alignment therefore can not be substituted to degree of harmonization and the harmonization will not guarantee the benefits of alignment *vice versa*.

Conclusions

An aid operating organization that is not altruistic on the aid outcome will achieve higher degree of aid effectiveness if it implements the aid with higher degree of harmonization and alignment.

Higher degree of harmonization and alignment enable aid operators to implement the aid programmes with meeting of critical success factors like time, cost, intended output and outcome which are crucial for the real effectiveness of development assistance. It derives another view that even if the aid harmonized at the global level and aligned at the country level may fail if the aid operators do not adequately harmonized and aligned at implementation level. This might be reasons for macro-micro paradox to prevail.

It is also important that aid operators cannot offset the aid harmonization to its alignment as both are independent and significantly related to aid effectiveness.

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Corporate Governance Practices and Environmental Reporting: A Study of Selected Listed Companies in Sri Lanka

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Abstract: The objective of this study is to investigate the relationship between environmental reporting practices and corporate governance attributes of listed companies in Sri Lanka. It examines the 2011 annual reports of the largest 75 Sri Lankan companies listed on the Colombo Stock Exchange (CSE) to determine the amount of environmental reporting and these data are compared with various corporate governance measures.

Maintaining good corporate governance and sound environmental performance are among the key challenges facing the organization to ensure its sustainability. Overall, it was found that the existence of environmental reporting practices is high. The most significant corporate governance measures in influencing the extent of environmental reporting is board size. The finding provide limited evidence to support that, companies which comply with corporate governance practice have the tendencies to be more environmentally responsible.

Keywords: Corporate Governance, Environmental Reporting, Sri Lankan Listed Companies, Performance

Introduction

Traditionally, corporate reporting practices have focused exclusively on providing financial information to stakeholders (Maunders & Burritt, 1991). Later on, with the changes in social value and technical knowhow, stakeholders are more concerned about the social and environmental protection and sustainable development. Thus, stakeholders demand information on the social and environmental impact of business activities in addition to the traditional financial reports. Consequently, with an understanding of "stakeholder's rights" and "organizational legitimacy" environmental reporting practices at firm's level have been increasing over the last few years all over the world.

Companies in Sri Lanka and worldwide are under more public scrutiny than ever before and are pressured to provide information on their environmental performances. Many researchers and commentators have noted how important it is for organizations to consider their effects on the natural environment and for them to reveal the outcome to a wider group of stakeholders who may have been affected (Deegan, 1994), including employees, consumers, the community, regulators, the media, the public, and shareholders (Adams and Zutshi, 2004). This "environmental reporting" has been defined broadly as providing information in relation to the environmental implications of their operations (Deegan, 2006).

A variety of research on corporate social reporting and environmental reporting have been conducted in industrialized countries (see for example Gray et al. 1995; Deegan and Gordon, 1996; Hackston and Milne, 1996; Adams, 2002; Cormier and Magnan, 2003, 2007; Cho and Patten, 2007;).

This study also attempts to achieve the following broad objectives.

1. To assess the existence of environmental reporting practices among Sri Lankan companies.

2. To identify any relationship between selected corporate governance characteristics and the existence of environmental reporting.

This study is significant for two important reasons.

1. It contributes to the literature by providing the recent state of environmental reporting practices in Sri Lanka.

2. The findings will report the essentials of integrating environmental considerations to the investors' community in their decision making process.

Reporting on environmental performance not only helps firms to gain stakeholder support, but also helps firms to evaluate possible risks involved in conducting such operations, and to reduce the impact of their operations on the environment. Hence, it is important to consider the level of environmental reporting undertaken by a company, within the context of how the organization is governed.

Corporate governance has been well researched, but only freshly has this research expanded to consider the relationship between non-financial reporting and governance mechanisms. Studies have found that strong corporate governance mechanisms increase the level of corporate disclosure generally (Lakhal, 2005), but research has not been undertaken to investigate whether this also applies to environmental disclosure. Effective governance should enhance accountability, transparency and ultimately result in more disclosure, both voluntary as well as mandatory. This study therefore aims to examine the effectiveness of governance mechanisms on voluntary disclosure, in particular, environmental disclosure. It includes an examination of the environmental disclosure in the annual reports of the top 75 listed Sri Lankan listed companies, to determine whether there is a relationship between corporate governance and environmental reporting.

Review of prior studies

Environmental Reporting

Corporate Environmental Reporting can be defined as an umbrella term that describes various means by which companies disclose information on their environmental activities to the users. This should not be confused with corporate environmental reports, which represents only one form of corporate environmental reporting. A Corporate Environmental Report is a tool to communicate a company's environmental performance. Corporate environmental reporting is the process by which a corporation communicates information regarding the range of its environmental activities to a variety of Stakeholders including employees, local communities, shareholders, customers, government and environmental groups. (Alok Kumar Pramanik, Nikhil Chandra Shil, Bhagaban Das, 2008).

The development of social and environmental accounting and accountability practices is still in its infancy (for example compared to the long historical practice of financial reporting). There is still much debate on various issues. (Bandara Rajapakse, A. W. J. C. Abeygunasekera).

Corporate Environmental Reporting (CER), as a recognized sub-set of corporate reporting, is now a decade old. The emergence of corporate environmental reporting in the 1990's has been an important development, not only in terms of environmental management, but also more generally for overall corporate governance. At present, the subject of environmental reporting is gaining prominence as a "hot issue" in the financial reporting community. It also becomes an international phenomenon and as result many companies especially those with a high public profile or perceived environmental impact have felt increasingly obliged to report externally to stakeholders on their environmental performance. And ultimately, the companies in different countries have started the practice of making environmental disclosure in their annual reports.

Environmental Reporting practices in Asian Countries

In Asian countries, there is no legislative requirement for companies to disclose environmental information in their annual reports. The Korean Securities Exchange Commission followed suit by enacting in 1996 a provision in the Corporate Accounting Standards (CAS), which requires the inclusion of environmental information in the form of accompanying footnotes to the corporate financial report. In Bangladesh, there is no professional or legal requirement for environmental disclosure in their annual reports of companies. (Alok Kumar Pramanik, Nikhil Chandra Shil, Bhagaban Das, 2008).

However, despite this lack of regulation, it is found that a very few progressive companies are making environmental disclosures in their annual reports purely on a voluntary basis. In Hong Kong, there is no statutory requirement for listed companies to quantify report and disclose environmental information to the public. Environmental Reporting in Sri Lanka is predominantly voluntary. In Sri Lanka, there is neither a prescribed professional standard nor legal framework addressing the issues of environmental reporting. Currently, there is no statutory requirement in Malaysia that requires publicly listed companies to disclose environmental information to the public. In Malaysia, the most commonly included disclosure item found in the annual reports of the companies with Corporate Environmental Policy (CEP) is "environmental policies or company concern for the environment". (Alok Kumar Pramanik, Nikhil Chandra Shil, Bhagaban Das, 2008.

Environmental Reporting Practices in Sri Lanka

In Sri Lanka, the industrial sector started to develop rapidly through local and foreign investments when it introduced liberalize open economic policies in the late 1970s. During the last two decades, four free trade zones, namely, Katunayake, Koggala, Biyagama and Mehirigama, many foreign business entities including multi-national companies and local manufacturing companies emerged resulting in large numbers of factories in various types of industries. Although expansion of industrial activities have actually contributed to the economic growth of the country, operations of these factories largely caused harm to the physical environment and ecological balance of the country in numerous ways (by discharging waste material, polluted water and chemicals etc, into the environment).

However, stakeholders' awareness of environmental impact on industrialization of Sri Lanka has increased during last few years. Not only has the recent Governments, even by the colonial governments, there been introductions of various environmentally friendly Acts enabling to protect the environment. For example, Forest Ordinance, the Forest and Wildlife Conservation Ordinance, the Land Ordinance, the Irrigation Ordinance, the Coastal Zone Conservation Act, the Mahaweli Authority Act, the Fisheries Ordinance, the Geological and Mining Act, the Natural Aquatic and Resources Agency Act, the Town Development Act, the Town Council Act, the Municipal Council Act and the National Environmental Act etc. (Rajapakse 2005).

Although these Acts / Ordinances have emphasized the significance of the environmental protection within their scope, at the first time the environmental management regulations came into existence with the National Environmental Act of No. 47 of 1980. It has provided many provisions covering whole aspect of environmental protection of the country and from the section 15th of this Act Central Environmental Authority has empowered to monitor environment management activities of the country. Therefore, organizations are bound to perform the prescribed environmental management requirements in the above mentioned National Environmental Act of 1980 (Rajapakse 2005).

The significant increase in stakeholders' (societies') awareness of ecological, social and environmental matters, have been reflected in the proliferation of nongovernmental organizations (NGOs) and other social movements. Consequently, there is an increasing trend of stakeholders' demand for environmental management and sustainable development information of business organizations. Public dissatisfaction about the inadequate disclosure of environmental information is also evident. But there is neither prescribed professional standard nor legal framework addressing the issues of environmental reporting. Thus, most business organizations in Sri Lanka, disclose only financial information although there is an increasing trend of stakeholders concern and demand for environmental management and sustainable development information of their business organizations (Rajapakse 2003). Though there is an increase in the stakeholders' awareness of environmental impact on industrialization of Sri Lanka and an increase in the stakeholders' moral of environmental protection, there are no significant improvements in environmental disclosures in annual reports of listed public companies in Sri Lanka (Rajapakse, 2001).

The stakeholders have a "right" to demand information on the environmental impact of the organizations activities and the organization has a "responsibility" to provide such information as there is a "social contract" between an organizations and the society in which it operates. Business organizations in Sri Lanka do not perform their financial reporting functions to communicate comprehensive information to users of financial reports. Thus, there is a gap between stakeholders interest on information (demand) and extent of information disclose (supply) by business organizations in Sri Lanka (Rajapakse, 2001).

Corporate governance practices in Sri Lanka

Corporate governance indicates the policies and procedures applied by firms to attain certain sets of objectives, corporate missions and visions with regard to stockholders, employees, customers, suppliers and different regulatory agencies and the community at large. The role of governance is to maximize shareholder's wealth. Corporate governance depends on managerial performance as well as a consideration of social responsibility, the socio- cultural-environmental dimension of business procedure, legal and ethical practices with a focus on customers and other stakeholders of an organization. Corporate governance is gaining importance among policy makers, entrepreneurs, business personnel, stakeholders and related organizations (Victoria Wise and Muhammad Mahboob Ali (2009).

Corporate governance is considered to have significant implications for the growth prospects of an economy. Good corporate governance practices are regarded as important in reducing risk for investors, attracting investment capital and improving the performance of companies. However, the way in which corporate governance is organized differs between countries, depending on their economic, political and social contexts (Kumudini Heenetigala, 2011)

Importance of corporate governance has been highlighted over the world nowadays and it has accused as one of the main causes of crisis. Agency theory and many corporate guidelines suggest having a good corporate governance system for more transparent disclosing information about the corporation. (Sheila Nu Nu Htay, 2012)

At present the corporate governance practices of Sri Lankan listed companies are governed by the mandatory corporate governance rules included in the CSE Listing Rules. However, as Listing Rules provide only minimum standards to be complied by the listed companies, ICASL Code of Best Practice (2008) will provide the basis for the development of corporate governance practices that are not covered in these rules. Further, these companies are also required to comply with the provisions of the Companies Act No.07 of 2007 on the appointment and removal of directors and auditors and the listed licensed commercial banks have to comply with Central Bank Direction on Corporate Governance.

Corporate governance and environmental reporting

The scandals of high profile companies such as Enron, WorldCom, Tyco and some other firms in the U.S, have raised the question of the effectiveness of monitoring mechanisms in organizations (Raphaelson and Wahlen, 2004). Therefore, it is claimed that the focus should now be more on improving the internal mechanism, which includes boards, particularly to increase shareholder's insight and influence on corporate behaviour in organizations (Kolk, 2006). Apart from the traditional approach to accountability in the context of corporate governance, sustainability reporting has also emerged, even though it is mostly on a voluntary basis concerning the societal and environmental implications (Kolk, 2006). Disclosure on environmental issues has the potential to increase shareholder's wealth and can be regarded as one of the elements of good corporate governance (SIO, 2002). However, the effectiveness of regulation on environmental risk, which emphasizes awareness and empowerment of shareholders, essentially depends on the quality of the environmental disclosure (Sinclair-Desgané and Gozlan, 2002).

Corporate governance and corporate social responsibility are interrelated. Corporate governance indicates the policies and procedures applied by firms to attain certain sets of objectives, corporate missions and visions with regard to stockholders, employees, customers, suppliers and different regulatory agencies and the community at large. The role of governance is to maximize shareholder's wealth. Corporate governance depends on managerial performance as well as a consideration of social responsibility, the socio- cultural-environmental dimension of business procedure, legal and ethical practices with a focus on customers and other stakeholders of an organization. Corporate governance is gaining importance among policy makers, entrepreneurs, business personnel, stakeholders and related organizations. (Victoria Wise and Muhammad Mahboob Ali, 2009).

Previous research has suggested that corporate governance is linked with corporate disclosure. These studies examine various governance variables and their relationship with various types of disclosure, such as: voluntary disclosure (Cheng and Courtenay, 2006; Donnelly and Mulcahy, 2008; Eng and Mak, 2003; Gul and Leung, 2004; Ho and Wong, 2001); financial disclosure (Chen and Jaggi, 2000); voluntary earnings disclosure (Lakhal, 2005); annual report public disclosure (Laidroo, 2009); and related party disclosure (Shan, 2009). Even though these studies provided mixed results, most indicated that corporate governance variables do affect companies' disclosure behavior. Hence it is assumed that under effective corporate governance managers are most likely to provide all the relevant information to users, whether mandatory or voluntary, and thus enhance the overall disclosure behavior of the firm.

Theoretical Framework and Hypothesis Development

As described in the previous section, there is a possible link between the corporate governance structure and the tendency for companies to engage in environmental reporting. The several characteristics are proposed by the corporate governance researchers and some of them are summarized in the fig.1.

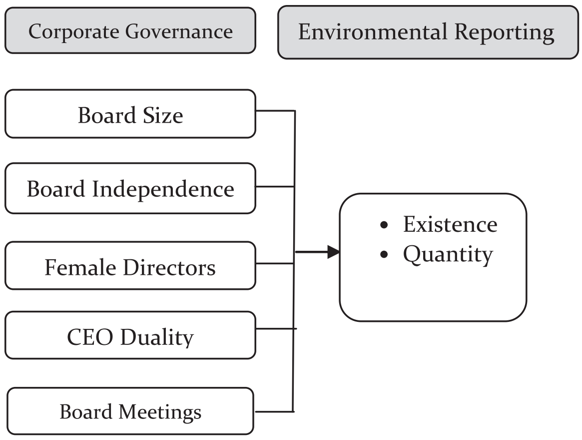

Fig.1: Essential attributes of corporate governance that lead to environmental reporting.

Board size and environmental reporting

Board size, that is, the number of directors on the board, plays an important role in monitoring the board's performance. Studies that examine board size and performance are briefly reviewed before considering studies that directly relate board size with disclosure. Board size has been found to be both positively and negatively associated with the firm performance. Most of the literature argues in favour of smaller sized boards and importance is attributed to limiting board size (Adams et al., 2005; Cheng, 2008; Jensen, 1993; Lau et al., 2009; Lipton and Lorsch, 1992; van Ees et al., 2003; Yermack, 1996). They conclude that larger boards are in a position to improve the governance of the company. Thus, we hypothesize that:

H_1: There is a positive relationship between board size and environmental reporting.

Board independence and environmental reporting

According to De Villiers et al. (2009) boards with more independent directors force managers to take decisions in favour of environmental activity, and they found that firms with strong environmental performance have more independent directors. Further it is considered that inside directors primarily focus on increasing shareholder value and are less likely to disclose, or be concerned with, environmental issues (Kassins and Vafeas, 2002). Therefore it is hypothesized that voluntary environmental reporting is more likely to increase with an increase in the proportion or number of independent, non-executive directors on the board:

H_2: There is a positive relationship between independent non executive directors and the amount of environmental reporting.

Proportion of female directors and environmental reporting

It is increasingly being viewed that women can make a significant contribution to the board. Huse and Solberg (2006) found that women are more committed and involved, more prepared, more diligent, ask questions and ultimately create a good atmosphere in the boardroom. Similarly, Adams and Ferreira (2004) found that more women on the board improves the decision making process, enhances board effectiveness and that women have better attendance/participation. According to Ibrahim and Angelidis (1994) female directors exhibit greater responsibilities, in their analysis they found that women are more philanthropically driven and less concerned with economic performance.

In summary, female directors' active involvement, better preparation, independence and other unique qualities, enable them to make a significant contribution to complex discussions and decisions such as environmental disclosure. Hence it is expected that more female directors on a board will increase the amount of environmental disclosure made by the firm: Thus, it is reasonable to come with the following hypothesize.

H_3: There is a positive relationship between the proportion of female directors on board and environmental reporting.

CEO Duality and environmental reporting

Nelson (1998) and Zairi (2000) stressed the importance of leadership in ensuring the success of social responsibility endeavors. In corporate governance literature, a separation of CEO roles from the roles of the chairman is needed to ensure the independence of the board of directors (Chaganti et. al., 1985). It is believed that if the CEO holds the chairman position, a state called "CEO duality", his/her influence may reduce the effectiveness of the board of directors in monitoring the management (Agrawal and Chadha, 2003). Following the claim of prior research, the following hypothesis is proposed:

H_4: There is a negative relationship between the role duality and environmental reporting.

Board Meetings and environmental reporting

This characteristic represents the number of meetings held in a year. Meeting frequency reflects the diligence and vigilance of the board in carrying their monitoring duties (Persons, 2006). Consistent with agency theory, board meeting frequency is an element of strong corporate governance (Khanchel, 2007). Frequency of meetings is also argued to be associated with the quality of reporting (Laksmana, 2008). In addition, an active board that meets more often is able to devote more time to issues such as social and environmental responsibility. Therefore, it is reasonable to establish the following hypothesis.

H_5: There is a positive relationship between board meetings frequency and the environmental reporting.

Control variables

As noted in the literature, firm specific characteristics may also affect the extent of environmental disclosure in the annual report and so this study focuses firm size, profitability and Industry as control variables.

Many studies have found that firm size is significantly associated with corporate disclosure (Donnelly and Mulcahy, 2008; Eng and Mak, 2003; Gul and Leung, 2004; Ho and Wong, 2001; Laidroo, 2009; Lakhal, 2005). Association between firm size and environmental disclosure has also been suggested, in that larger firms are more likely to identify environmental issues (Al-Tuwaijri et al., 2004; Clarkson et al., 2008; Patten, 1992; Patten and Trompeter, 2003). Further de Villiers et al. (2009) found that firm size is positively associated with the presence of strong environmental performance, and evidence also exists that indicates a positive association between environmental disclosure and firm size (Deegan and Gordon, 1996; Halme and Huse, 1997). Three measures of firm size are used in this study: total assets, market capitalization and operating revenue.

Profitability has also been shown to affect disclosure levels, and it could be measured by Return on Assets (ROA) and Reported profit. The use of ROA is consistent with other disclosure based studies (Cheng and Courtenay, 2006; de Villiers et al., 2009; Gul and Leung, 2004). Profitability has given contradictory results in previous literature. Some studies found positive associations (Al-Tuwaijri et al., 2004; de Villiers et al., 2009), other studies found negative association (Chen and Jaggi, 2000; Laidroo, 2009) whereas some found no relationship (Eng and Mak, 2003; Patten, 1991).

Table 1: Measurement of variables

Variables	Measures	Abbreviated
Dependent Variables		
The existence of environmental reporting	Measured as a dummy variable with the value of 1 if annual report disclosed environmental reporting and 0 otherwise.	env.exis
Environmental Disclosure	Total number of words dedicated to environmental issues in the annual report	env.disc
Proportion of environmental disclosure	Total number of words dedicated to environmental issues in the annual report divided by total words in the annual report	env.prdi
Independent Variables		
Board Size	Number of directors on board	brd.size
Independent directors	No. of non executive directors on board	ind.dire
Female Directors	Number of female directors on board divided by total number of directors	fem.dirc
CEO Duality	Measured as a dummy variable with the value of 1 if CEO is also the chairman of the board and 0 otherwise.	ceo.dual
Board Meetings	Board meeting frequency is measured by the total number of meetings held in a year	brd.meet
Control variable		
Firm Size	Total assets (Rs.Mn)	tot.aset
	Market capitalization (Rs.Mn)	mkt.capt
	Operating revenue (Rs.Mn)	opt.revn

The industry within which the firm operates may also affect the level of disclosure (Ho and Wong, 2001; Lakhal, 2005; Patten, 1991). Environmentally sensitive industries (forestry, metals, coal, oil, gas, paper, chemicals and electricity) usually disclose more environmental information (Cho and Patten, 2007; Deegan and Gordon, 1996; Halme and Huse, 1997). Further, de Villiers et al. (2009) suggest that firms with strong environmental performance are more likely to operate in environmentally sensitive industries.

However, in this study researcher includes only firm size as control variable in this study. The firm size is measured by total assets, market capitalization and operating revenue.

Table.1 provides a summary of studies of corporate governance characteristics and disclosure, the variables used and the measurement of variables.

Data

The sample used in this study is the largest 75 Sri Lankan firms listed on the Colombo Stock Exchange (CSE) in 2011, selected on the basis of market capitalization. The top 75 companies in the list were selected because these were more likely to have the resources and motivation to take advantage of the opportunity to adopt good corporate governance practices. The top 75 companies presented annual reports, which included a governance report. Furthermore these companies were better performing, exhibited higher stock returns and were assumed to engage in good governance practices.

The 2011 annual reports of the 75 listed companies were examined to determine the amount of environmental reporting; these data have been compared with various corporate governance measures. While companies communicate their disclosure with stakeholders by other means these means are outside the scope of this study. Data on corporate governance and environmental reporting were collected from secondary sources. These relevant data were extracted from the CSE, which reports data on all the financial information relevant to this study. Fact and figures relating to corporate governance and performance were extracted from annual reports and the Handbook of Listed Companies from CSE.

Methodology

The bivariate relationships between the variables are examined using Pearson's correlation coefficients; this allows examination of whether there is a statistically significant association between the variables. As well as providing information in its own right, these measures allow assessment of the likelihood of econometric problems when conducting the regression analysis; high correlation between independent variables is a sufficient (but not necessary) indicator of multicollinearity, which renders estimators unreliable.

Multivariate analysis is conducted using linear regression, i.e. Ordinary Least Squares (OLS). The relationship being examined is assumed to be linear; to fulfill data requirements for linearity several variables are transformed (see discussion above). The underlying model is based on the linear (in parameters) specification:

$$Y_i = \beta_1 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} \ldots \beta_k X_{ki} + €_i$$

Where Y_i is the dependent variable for firm i; Xs are independent and control variables (from 1 to k); β_s are the estimated parameters of the model, and € is the zero mean, homoscedastic and serially independent regression error.

With these models data were analyzed by using the appropriate statistical tools such as descriptive statistics, correlation and regression.

Data analysis and findings

Descriptive statistics

Descriptive statistics were calculated for each of corporate governance characteristics and environmental reporting.

Table 2: Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
env.exis	75	0	1	0.84	0.37
Environmental disclosure (n)	75	0	7,031	830	1,251
Proportion of environmental disclosure (%)	75	0	0.07	0.01	0.02
Board Size (n)	75	5	16.00	8.16	2.11
Independent directors (%)	75	0.14	0.78	0.38	0.13
Female directors (%)	75	0	0.40	0.06	0.09
CEO duality (dummy 1,0)	75	0	1	0.32	0.47
Board meetings (n)	75	1	20	7.63	4.57
Total assets (Rs.Mn)	75	567	441,000	32,967	74,918.46
Market capitalisation (Rs.Mn)	75	4,781	179,000	22,818	29,577.23
Operating revenue (Rs.Mn)	75	-83.00	17,362	1,895	2,902.54
Valid N (listwise)	75				

Table 2 shows the descriptive statistics of whole variables in this study. The existence of environmental reporting in Sri Lanka is high; the 84% of the listed companies in Sri Lanka disclose the environmental reporting in their annual reports. The overall environmental disclosure level in words represents the mean of 830 words of the examined annual reports which ranged from minimum mean of 0 words and to a maximum mean of 7031 words in year 2011. Moreover, the environmental disclosure level in proportion represents 1.4% of the examined annual reports which ranged between minimum mean of 0% and maximum mean of 7.3% in 2011. The environmental information reported by listed companies still suffers from irrelevancy and incompleteness.

The mean proportion of independent directors in the board is 38.20% with 13.1% standard deviation, indicating that approximately 1/3 of the directors are independent non-executive, which is in line with reformed Corporate Governance Code (2008) of Sri Lanka. The mean role duality is 0.32, reflecting compliance by the majority of the sample companies with the corporate governance principle of separating the CEO and chairman roles. The average board size is 8.16; a larger board size can bring directors with experience that may represent a multitude of values in the board. Sri Lankan Corporate Governance Code recommends that the Board must have sufficient number of members that guarantee the efficiency of monitoring, analyzing, and evaluating the work of directors and the fair treatment of shareholders. However major drawbacks are identified with larger boards, including a lack of communication, slow decision making, and a lack of unanimity that ultimately affects board effectiveness and efficiency.

The mean proportion of female directors in the board is 6.1%, which varies between 0% to 40%, indicating that most of the companies selected as sample have 0% female directors on the board. Most of the studies found lowest level of environmental reporting with lowest proportion of female directors. The average board meeting hold in a is 7.6 which varies between number of meeting 1 and 20. However high frequency of board meetings will help to disclose more environmental reporting.

The firm size can be determined using the measures of total assets, market capitalization and operating revenue. The average total assets, Operating revenue and Market Capitalization of these companies are Rs. 32,966 Mn, Rs.1, 895 Mn and Rs.22, 818 Mn respectively.

Pearson's correlation

The bivariate relationships between the variables are examined using Pearson's correlation coefficients; this allows examination of whether there is a statistically significant association between the variables.

Environmental disclosure is, as expected, positively, statistically significantly, correlated with board size (r =0.290, p-value 0.012), total assets (r=0.332, p-value 0.004), market capitalization(r=0.544, p-value 0.000) and operating revenue (r=0.271, p-value 0.019).

It can be seen that from Pearson correlation, the proportion of environmental reporting is significantly positively associated with market capitalization(r=0.373, p value 0.001) and significantly negatively associated with CEO duality(r=-0.258, p value 0.025). It denotes that separation of role of chairman and CEO is encourages to provide more information on environmental issues. Further the positive significant association between proportion of environmental reporting and market capitalization ensures that large size of firms disclose more environmental reporting.

And also it is observed that environmental disclosure has no any significant relationship with proportion of independent director, Proportion of female directors, board size and board meetings, total assets and operating revenue.

Table 3: Pearson's correlation coefficient (r) matrix

	env.exis	env.disc	env.prdi	brd.size	ind.dire	fem.dirc	ceo.dual	brd.meet	tot.aset	mkt.capt	opt.revn
env.exis											
env.disc	.292*										
env.prdi	.369**	.759**									
brd.size	.241*	.290*	0.219								
ind.dire	-0.041	0.137	-0.003	-.258*							
fem.dirc	-0.083	0.225	0.003	0.134	0.055						
ceo.dual	-.402**	-0.14	-.258*	-.338**	0.083	-0.091					
brd.meet	0.196	0.18	-0.062	.370**	0.05	.324**	-.397**				
tot.aset	0.14	.332**	0.051	.335**	0.074	.402**	-0.213	.573**			
mkt.capt	0.105	.544**	.373**	0.055	0.207	0.005	0.033	-0.016	.268*		
opt.revn	0.139	.271*	0.148	.449**	-0.067	0.11	-0.112	0.218	.567**	.453**	

*. Correlation is significant at the 0.05 level (2-tailed).

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

Regression Analysis

Multiple regression analysis is employed to test the developed research hypotheses, such multivariate analysis is undertaken to examine the relationship between environmental disclosure in words and corporate governance variables and Firm Size variables.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657[a]	0.432	0.363	998.844

a. Predictors: (Constant), opt.revn, ind.dire, fem.dirc, ceo.dual, brd.meet, mkt.capt, brd.size, tot.aset

Accordingly, R^2 values of 0.432 indicates that the environmental disclosure of the selected listed companies is contributing to the corporate governance variables as well as firms size variable by 43.2% and the remaining 56.8%, can be attributed by other factors which are not studied, because they are outside the scope of the study.

Table.5 presents the results of regression with environmental disclosure as dependant variable. Result shows a significant positive association between environmental disclosure and board size (p-value 0.014 ≤ 0.05), and market capitalization (p-value 0.000 ≤ 0.05). However, no significant association is found between environmental disclosure and independent directors, female directors, CEO duality and board meetings.

The regression results reveals that consistent with our prior expectation a significant positive relationship exists between the size of firms and the level environmental disclosure.

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-1333.26	742.805		-1.8	0.077
	brd.size	175.882	69.599	0.297	2.527	0.014
	ind.dire	658.15	966.024	0.069	0.681	0.498
	fem.dirc	2116.23	1458.176	0.15	1.451	0.151
	ceo.dual	-149.841	277.686	-0.056	-0.54	0.591
	brd.meet	-7.841	34.908	-0.029	-0.23	0.823
	tot.aset	0.002	0.002	0.138	0.955	0.343
	mkt.capt	0.024	0.005	0.573	5.202	0.000
	opt.revn	-0.091	0.058	-0.212	-1.56	0.123

a. Dependent Variable: env.disc

This result simply implies that the larger the size of a firm, the more they will be willing to invest on resources and corporate environmental technologies that are environmentally friendly. More so, larger firms tend to be more concerned with their corporate environmental reputation and image; since they are more visible to external stakeholders who constantly demands for a higher corporate social environmental performance. Furthermore, larger companies are more susceptible to inquiry from stakeholder groups since they are highly visible to external groups and more vulnerable to adverse reactions from them. Regression results suggest that market capitalization plays significant role in explaining environmental disclosure. This also reflecting that larger the firm size provides more environmental information.

However, this study fails to provide evidence on relationship between remaining four variables, namely independent directors, CEO duality, female directors and board meetings. From this result the CEO duality implies that CEO duality is less influential in inducing firm to report more information on environmental concern.

Results of hypothesis testing

Board size and environmental reporting

The 1st hypothesis (H_1) predicted that board size would be positively associated with environmental disclosure. The result is statistically significant positive (p-value = 0.014 ≤ 0.05) relationship between board size and environmental disclosure. Therefore H_1 is supported. The result is consistent with de Villiers et al. (2009) who found a positive association between board size and environmental performance, suggesting that larger boards possess the necessary expertise to ensure strong environmental performance.

Proportion of independent directors and environmental reporting

The first hypothesis (H_2) suggests that the percentage of independent directors is positively associated with environmental disclosure. But the result is not statistically significant (p-value = 0.498). Therefore H_2 is not supported.

The result is not consistent with the findings of many previous studies (Chen and Jaggi, 2000; Cheng and Courtenay, 2006; de Villiers et al., 2009; Donnelly and Mulcahy, 2008; Ho and Wong, 2001; Shan, 2009) which all found a positive association between independent directors and various types of disclosure. Further, de Villiers et al. (2009) in particular, found that a firm with more independent directors resulted in better environmental performance.

The Proportion of female directors and environmental reporting

The third hypothesis (H_3) suggested that the percentage of female directors on a board is positively associated with the level of environmental disclosure. But the result is not statistically significant (p-value 0.151). Therefore, H_3 is not supported.

But the previous research found female directors have the potential to increase overall performance of the firm (Adams and Ferreira, 2004; Bonn, 2004; Carter et al., 2003; Huse and Solberg, 2006) and that the number of females on a board is positively associated with corporate disclosure (Julie, 1996; Ibrahim and Angelidis, 1994).however there was very few number of female directors serves on the board of few companies in Sri Lanka.

CEO Duality and Environmental Reporting

The 4th hypothesis (H_4) suggested that the CEO Duality is negatively associated with environmental disclosure. But the result is not statistically significant (p-value 0.591).From this result the CEO duality implies that CEO duality is less influential in inducing firm to report more information on environmental concern. One of the reason is perhaps the separation may not be crucial element since many companies are well run even with roles combined and have strong & capable board for monitoring. Furthermore it is also possible that the duality CEO is also substantial shareholders.

Board Meeting and Environmental Reporting

The 5th hypothesis (H_5) suggested that the Board Meetings are positively associated with environmental disclosure. But the result is not statistically significant (p-value 0.823). from the results we can rationally explain the reason for not significant association with board meeting is that, although board is meets regularly, the effective monitor of management is influence by other factors such as external ownership can take the place of board monitoring actions and the efficient coordination among the directors can be attained when boards are greater in numbers.

Conclusion and Reccommendations

The objective of this study is to examine the level of environmental reporting among Sri Lankan listed companies and its association with corporate governance characteristics. On the whole, this study concludes that environmental reporting in Sri Lanka is high. The 84% of the companies reported environmental information in their 2011 annual reports.

Additionally, findings on the corporate governance variables suggest that only the board size is positively associated to environmental reporting. The results imply that the decision to engage in environmental reporting is likely to be affected by a larger number of directors in the board.

However, similar associations are not found for board independence, CEO duality, female directors to the board and Board Meeting. Additionally, we find positive and significant relationships between the existence of environmental reporting and firm size and environmental sensitivity. These findings suggest that environmental reporting in Sri Lanka is predisposed towards 'image building' endeavors, rather than to achieve accountability to the environment. This certainly has policy implications as until environmental reporting becomes mandatory, companies will refuse to report or rather report the 'positive' information only.

This research has potential policy implications. Results of the study generally showed that corporate governance factors investigated appear to have influence on environmental reporting. Such finding has important implications for different policy makers. It helps to inform standard-setters, and regulators about the importance of sound corporate governance in providing the foundations of comprehensive and quality environmental disclosure by establishing value-creating relationships with various stakeholders. Additionally, the result will possibly have important implications on our understanding of the motive and consequences of environmental disclosure.

The main limitation of this study is only one year of data was considered in the current study. Hence, it would be interesting to conduct a longitudinal study on a yearly basis as it may help to trace the trend of environmental disclosure and the impact of corporate governance on environmental reporting practices.

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Management Efficiency and Profitability: An Empirical Study on the Manufacturing Companies Listed in Colombo Stock Exchange

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Abstract: Management efficiency is an integral part of the overall corporate strategy to create shareholder value and for the survival of a business as it has direct impact of firm's profitability. This study investigates the relationship between the management efficiency and profitability for a sample of 20 manufacturing companies listed on the Colombo Stock Exchange for the period of 5 years from 2007 to 2011. Descriptive andsimple linear regression analyses were used to study the relationship between management efficiency and profitability. The results of the statistical test of the hypothesis indicated that the relationship between Fixed Assets Turnover has significant impact on Return on Assets and it is positive. And also the relationship between Fixed Assets Turnover and Net Profit is positive but it isinsignificant. The relationship between Total Assets Turnover and Return on assets is positive and significant while the relationship between Total Assets Turnover and Net Profit is positive and insignificant while Working capital turnover is insignificant in the study. The implication of this study can be used by the managers to improve their financial performance and formulate policies that will promote effective assets management system.

Keywords: Management Efficiency, Profitability, Manufacturing Sector

Introduction

All companies are living in an era of ever changing world which is uncertain, complex and unpredictable. Globalization of markets, increase in competition and constant changes in technological advancement has put huge pressure on organizations to continuously develop and be adaptable to face the challenges of a rapidly changing environment. Most organizations are struggling to survive and are concentrating on developing efficiency at all levels of the organization. In such case performance evaluation of the company is very much important. Performance evaluation of a company is usually related to how well a company can use its assets, shareholder equity and liability, revenue and expenses.

In the asset management process firms' investment decisions take place very important role which is very essential guideline to indicate the management efficiency in investment in long term and short term assets. Investment in short term assets is called current assets. These assets are expected to be converted to cash in the short term, is popularly termed as working capital management. Investment in the long term assets called noncurrent assets, popularly known in financial literature as capital budgeting. Short term decisions are easier than long term decisions but they are not less important. However it is very essential to efficient management decision for both current and noncurrent assets and liabilities. Therefore, in financial accounting there are such ratios to measure the efficiency and as called efficiency ratio. The efficiency with which the assets are used would be reflected in the speed and rapidity converted into sales or they measure the efficiency of the asset management, both noncurrent and current.

According to the Jamali and Asadi (2012), management efficiency is an important component of corporate financial management because it directly affects the profitability of the firms. And also Ehrhardt and Brigham (2007) indicated that in terms of corporate financial perspective management efficiency deal with the effective utilization of assets (both non-current and current) for the purpose of profit maximization on the other hand that indicate the efficiency of usage of the entity's assets in producing revenue and profit. Every business is most concerned with its profitability. Profitability is the ability to make profit from all the business activities of an organization, company, firm, or an enterprise. It shows how efficiently the management can make profit by using all the resources available in the market. Profit is ensuring the long term survival of the firm.

Jamali and Asadi (2012) explored the relationship between management efficiency and profitability considering the importance of profitability for the survival of a business and the role of efficient management to achieve this aim. Therefore efficient management can ensure the success and the sustainability of the firm while its inefficient management may lead the firm into a pitfall. The central conclusion of the study was that the profitability and management efficiency are highly correlated to each other.

The objective of this study is to investigate the relationship between the management efficiency and the firm's profitability for manufacturing sector listed on the Colombo Stock Exchange and to make a judgment of how well the these companies are in efficiency at various manners such as working capital management, fixed asset management and total asset management.

Literature Review

Ghosh and Maji (2003) attempted to examine the efficiency of working capital management of the Indian Cement Companies during the period1992 to 2002. For measuring the efficiency of working capital management, performance, utilization, and overall efficiency indices were calculated instead of using some common working capital management ratios and asset management ratios. Setting industry norms as target-efficiency levels of the individual firms, this article also tested the speed of achieving that target level of efficiency by an individual firm during the period of study. The findings of the study indicated that the Indian Cement Industry as a whole did not perform remarkably well during this period.

Lazaridis and Tryfonidis (2004) investigate the relationship of corporate profitability and working capital management. They used a sample of 131 companies listed on the Athens Stock Exchange for the period of 2001-2004. The purpose of their study was to prove statistically significant relationship between working capital and profitability, the cash conversion cycle and its components for listed firms in the ASE. The results of their research showed that there is statistical significance between profitability, measured through gross operating profit, and the cash conversion cycle. Moreover managers can create profits for their companies by handling correctly the working capital components.

Yijie and Jing (2005) in their research discussed that meaning of management efficiency and how to measure it which is a subject that isn't resolved scientifically in the world of academia. The authors of the paper, started with researching quantity of management, thought that management efficiency is the quantity of information communicating finished by a manager in a unit time and on the basis of which put forth a corresponding method of measuring management efficiency with quantitative indicators of management efficiency delimitate.

Padachi (2006) used a set of 58 small manufacturing firms in Mauritius with 340 firm-year observations from 1998 to 2003. The study confirmed that firms with more receivables and higher levels of inventory are less profitable. The author conducts a comparative analysis of five major industry groups, and asserts that working capital has a negative correlation with Return on assets. The study concluded that the efficient management of working capital increases profitability.

Shah and Sana (2006) also investigated the relationship, using financial data on oil and gas companies in Pakistan for the period 2001 to 2005. Their findings suggested that it is possible for financial managers to maximize shareholders' wealth by efficiently managing working capital. They reported that profit margins move in a significantly opposite direction to Working Capital Management and the Profitability 31 of the Textile Sector. Receivables, cash cycles, sales growth, and inventory conversion periods. Further, they examine the causal relationship that confirms that the efficient management of working capital moves positively with profitability.

Christopher and Kamalavalli (2007) studied the efficient management of working capital. The dependent variable return on assets is used to measure the profitability and the relation between working capital management corporate profitability is investigated for a sample of 14 corporate hospital in India using panel data analysis for the period of 1997-1997 to 2005-2006.Corralation analysis revealed that eight variable are Current ratio, Quick ratio, Inventory turnover ratio, Debtor turnover ratio, Comprehensive liquidity index, Net liquidity balance, Size and Leverage and Working capital turnover Ratio, Ratio of current assets to total assets, Ratio of current assets to operating income. The study concludes that all ratios are significantly associated with Return on assets.

Prabath and Lakshan (2007) emphasized in his article "Efficient working capital management is an integral part of the overall corporate strategy to create shareholder value". He investigated the relation between the company's working capital, cost structure and their profitability. This relationship is examined using correlation and regression analysis. In this research, have selected a sample of 65 Sri Lankan companies listed on Colombo Stock Exchange for a period of 5 years from 2003-2007, have studied the effect of different variables of working capital management and cost structure on the profitability of Sri Lankan Companies including the Debtors turnover in days, Inventory turnover in days, Creditors payable in days, and working capital cycle representing the working capital and Administrative, Selling and Finance expenses representing the cost structure. The results suggested that managers can increase corporate profitability by reducing the number of inventory turnover days and increasing the creditors payable days in order to minimize the length of the working capital cycle. Increase in creditors payable days would give opportunities to the company for further investments. Also it suggested that the spending on selling and distribution would not increase the profitability and more finance cost would hinder the profits of the companies.

Mathuva (2009) analyzed the correlation between financial ratios, including liquidity ratio (Current ratio), profitability ratio (Return on Investment), activity ratio (Total Assets Turnover), and olvability ratio (Debt to equity), and both capital gain (loss) and dividend in 135 manufacturing companies listed on the Jakarta Stock Exchange. This research discovers that all ratios have positive correlation with capital gain (loss). However, only current ratio which is statistically significant (α=5%). Furthermore, for correlation with dividend yield, only total asset turnover that is proved significant. (α=10%).

Clausen (2009) stated that the Profitability Ratio Analysis of Income Statement and Balance Sheet are used to measure company profit performance. The income statement and balance sheet are two important reports that show the profit and net worth of the company. It analyses showed how the well the company is doing in terms of profits compared to sales. He also showed how well the assets are performing in terms of generating revenue. He defined the income statement shows the net profit of the company by subtracting expenses from gross profit. Furthermore, the balance sheet lists the value of the assets, as well as liabilities. In simple terms, the main function of the balance sheet is to show the company's net worth by subtracting liabilities from assets. He said that the balance sheet does not report profits, there's an important relationship between assets and profit. The business owner normally has a lot of investment in the company's assets.

Danuletiu (2010) did a research to analyze the efficiency of working capital management of companies from Alba County. The relation between the efficiency of the working capital management and profitability is examined using Pearson correlation analyses and using a sample of 20 annual financial statements of companies covering period 2004-2008. The conclusion of the study was that there is a weak negative linear correlation between working capital management indicators and profitability rates.

Hossan and Habib (2010) in their study attempted to evaluate the performance of pharmaceutical company in .It means how well the companies perform efficiently in the market. The study conducted from 2007 to 2008 based on the data collection from the annual financial reports. Different financial ratio is evaluated such liquidity ratios, asset management ratios, profitability ratios, market value ratios, debt management ratios and finally measure the best performance between two companies. The graphical analysis and comparisons are applied between two companies for measurement of all types of financial ratio analysis. They emphasized in their article that liquidity ratio is conveying the ability to repay short-term creditors and it total cash. It determines perform of short term creditor under the three categories such as current ratio, quick ratio and cash ratio. The asset management ratio is a measurement how to effectively a company to use and controls its assets. It's also quantify into seven categories such as account receivable turnover, average collection period, inventory turnover, account payable turnover , account payable turnover in days ,fixed asset turnover , total asset turnover. Profitability ratio is evaluating how well a company is performing by analyzing and how the profit was earned relative to sales, total assets and net worth. Debt coverage ratio is performing that the property insufficient to collect their mortgage and market value has performed the stockholder to analysis their future market value of the stock market.

Jamali and Asadi (2012) found the very big relationship between the management efficiency and the firm's profitability for a sample of 13 auto manufacturing companies listed on the Bombay Stock Exchange, located in Pune for the period of 5 years from 2006 to 2010.They denoted that "Management efficiency is an important component of corporate financial management and it directly affects the profitability of the firms". The analysis is carried out using Minitab 14 and conducting Pearson Coefficient correlation test on variables of the study including Gross Profit Ratio (GPR) and Assets Turnover Ratio (ATR).The central conclusion of the study is that profitability and management efficiency are highly correlated to each other and based on the results of the study recommendations for improving the management efficiency and profitability in this industry are suggested.

Alipour (2011) made a research on Working capital management and profitability. The main objective of this research was studying the relationship between working capital management and profitability. The time realm of the research was 2001-2006 and the studied companies have been the ones accepted in Tehran stock exchange. Multiple regressions and Pearson's correlation were used to test the hypothesis. The results of the statistical test of the hypothesis indicated that there is a significant negative relation between number of day accounts receivable and profitability, a negative significant relation between Inventory turnover in days and profitability, a direct significant relation between number of days accounts payables and profitability. The results of the research show that in the studied companies, there is a significant relation between working capital management and profitability and working capital management has a great effect on the profitability of the companies.

Alam et al. (2011) did a study to find out impact of working capital management on the profitability of the firm without compromising for the liquidity of the firm. Furthermore they also tried to explore the impact of efficient working capital management, proxy for financial performance, on the market value of the firm. In this study they used secondary data, of sixty five companies randomly selected from Karachi Stock Exchange. The five years panel data, from 2005 to 2009, are extracted from publicly available sources, financial statements and other web sources, is used. Because of differences in the nature of operations, financial and service sector firms are not included in the analysis. Tobins Q; proxy used for determining the market value of the firm. Whereas return on assets & return on invested capital; were used to measure financial performance of the firm. Five financial ratios, Cash Conversion Cycle; Current Ratio; Current asset to total asset ratio; Current liabilities to total asset ratio and Debt to asset ratio, were used as variables against which changes in dependent variables measured by applying correlation and multiple regression Technique using SPSS. They found significant correlations exist between Working Capital with and the firm's profitability.

Conceptualization and Hypotheses

Based on the research objective and the literature survey conceptual model and hypotheses have been constructed for this study. This model of management efficiency in manufacturing sector introduces new constructs and uniquely combines them in specifying that the profitability is a function of working capital turnover, fixed assets turnover and total assets turnover.

Hypotheses

The following hypotheses were formulated for the study.

H1: There is a significant relationshipbetween working capital turnover and return on assets.

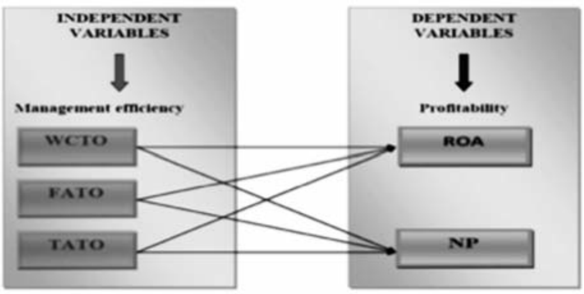
H2: There is a significantrelationship between fixed asset turnover and return on assets.

H3: There is a significant relationship between total asset turnover and return on assets.

H4: There is a significant relationship between working capital turnover and net profit.

H5: There is a significant relationship between fixed assets turnover and net profit.

H6: There is a significant relationship between total assets turnover and net profit.



Methodology

Data Collection

The present study used secondary data for the analysis. The data were collected from the annual reports of the selected companies from 2007 to 2011. The financial statements which are made up of income statements and balance sheets of the sample companies were the main sources of data for this study. These were obtained from the web sites of the respective companies.

Sampling Design

The population of this study is based on listed companies in the Colombo Stock Exchange (CSE). The CSE has 287 companies representing 20 business sectors as at 31st December 2012, with a Market Capitalization of Rs. 2,167.5 Bn. The sample of this study composed of twenty companies listed in the manufacturing industries where there are 39 companies listed in the manufacturing sector. The sample period was five years from 2007 to 2011. From this sector the following twenty listed Sri Lankan manufacturing companies were selected to carry out the research;

1. Laxapana Batteries PLC
2. Kelani Cables PLC
3. Royal Ceramic Lanka PLC
4. Sierra Cables PLC
5. Lanka Ceramic PLC
6. Ceylon Grain Elevators PLC
7. Dipped Product PLC
8. Tokyo Cement Company Lanka PLC
9. ACME Printing & Packaging PLC
10. Chevron Lubricants Lanka PLC
11. Print Care PLC
12. Lanka Aluminum Industries PLC
13. Lanka Wall tiles PLC
14. ACL Cables PLC
15. Abans Electricals PLC
16. ACL Plastics PLC
17. Central Industries PLC
18. Singer Industries (Ceylon) PLC
19. Samson International PLC
20. Pellawtte Sugar Industries

The sample represents 51% of the companies listed under the manufacturing sector. Other companies listed under the different sectors are not taken into consideration in this analysis in order to arrive at a generalized conclusion about the listed manufacturing companies in Sri Lanka.

Mode of Analysis

As this research is based on the secondary and numerical data quantitative research approach had been used. According to Leavy (2004), "statistical analyses are used to describe an account for the observed variability in the data". This involves the process of analyzing the data that has been collected. Thus the purpose of statistics is to summarize and answer questions that were obtained in the research. The upper level of statistical significance for hypotheses testing was set at 5%. Statistical analysis involves both descriptive and inferential statistics. Descriptive statistics are used to describe and summarize the behavior of the variables in a study. They refer to the ways in which a large number of observations are reduced to interpretable numbers such as averages and percentages. Inferential statistics are used to draw conclusions about the reliability and generalizability of the findings (Leary, 2004). In order to test the research hypotheses; the inferential tests used include the Regression Analysis.

Research Model

Regression analysis was carried out to test the impact of management efficiency on profitability. Here management efficiency is the independent variable and profitability isthe dependent variable. From these independent anddependent variables, the following relationships areformulated.

Profitability of the companies is dependent upon the management efficiency. It is represented as follows;

$$P = f\ (ME)$$

Which shows profitability is the function of management efficiency.

Where;
P = Profit
ME = Management Efficiency

Here, profitability is measured with the help of two ratios namely Net profit, Return on Assets. Management Efficiency is measured through working capital turnover, fixed assets turnover and total assets turnover ratio. Therefore, the regression model will be formulated in the following manner;

Where;

$$\left.\begin{array}{l} NP = â0 + â1x1 \ldots\ldots\ldots\ldots\ldots\ldots \\ NP = â0 + â1x \ldots\ldots\ldots\ldots\ldots\ldots \\ NP = â0 + â1x3 \ldots\ldots\ldots\ldots\ldots\ldots \end{array}\right\} \text{Model - 1}$$

$$\left.\begin{array}{l} ROA = â0 + â1x1 \ldots\ldots\ldots\ldots \\ ROA = â0 + â1x2 \ldots\ldots\ldots\ldots \\ ROA = â0 + â1x3 \ldots\ldots\ldots\ldots \end{array}\right\} \text{Model - 2}$$

Where;
X1 = Working Capital Turnover Ratio
X2= Fixed Assets Turnover Ratio
X3= Total Assets Turnover Ratio
NP = Net profit
â0 = Constant
ROA = Return on Assets

Descriptive Analysis

The descriptive statistics show that over the period under study, the profitability ratios measured by return on assets and net profit averaged 0.08%, and 0.04% respectively. Theworking capital turnover ratio stood at 4.9% and fixed assets turnover averaged 4.6% and total assets turnover ratio averaged at 1.2%.

Results and Analysis

Table 1: Results of Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. deviation
ROA	100	-0.28	1.94	0.08	0.21
NP	100	-0.58	0.25	0.04	0.09
WCTO	100	-18.02	25.04	4.93	7.52
FATO	100	0.04	40.48	4.55	6.47
TATO	100	0.44	3.01	1.24	0.57
Valid N (list wise)	100				

Regression Analysis

Table 2: Working Capital Turnover Ratio on profitability

Model	Dependent Variable	R^2	F	Significant	Standardized Coefficients
1	NP	0.021	0.133	0.716	0.037
2	ROA	0.066	0.628	0.430	0.080

* Correlation is significant at the 0.05 level.

The R^2 values of 0.021and 0.066 which are in the above mentioned table denotes that 2.1%, and 6.6% of the observed variability in NP, and ROA is explained by the variability in the independent variable of Working Capital Turnover ratio. These R^2 values indicate that there may be number of variables which canhave impact on profitability other than the Working Capital turnover ratio. Hence this area indicated as a scope for future research. Further, the results did not show any significant relationship between working capital turnover ratio and profitability indicators.

and return on assets of the listed manufacturing companies in Sri Lanka. However, F-statistics reported that FATR was significantly related to ROA, with F-statistics 10.391 ($p = 0.002 < 0.05$), and NP with F-statistics 5.432 ($p = 0.022 < 0.05$) during the study period. It reflects that the F value is significant at the 0.05 significant level.

Therefore at 5% significance level, it can be statistically concluded that the model fits to analyze the relation between FATR and Profitability.

Table 3: Fixed Assets Turnover Ratio on Profitability

Model	Dependent Variable	R^2	F	Significant	Standardized Coefficients
1	NP	0.053	5.432	0.022	0.229*
2	ROA	0.096	10.391	0.002	0.310*

* Correlation is significant at the 0.05 level.

The above mentioned table shows that fixed assets turnover ratio is having the impact of 5.3% and9.6% on net profit and return on assets respectively. This indicates that fixed assets turnover ratio composition is a minor determining factor of net profit

The hypotheses H2 and H5 were accepted at the 0.05 significant level and it was concluded that there is a significant relationship between fixed assets turnover ratio and profitability.

Table 4: Total Assets Turnover Ratioon Profitability

Model	Dependent Variable	R^2	F	Significant	Standardized Coefficients
1	NP	0.033	3.312	0.072	0.181
2	ROA	0.122	13.566	0.000	0.349*

* Correlation is significant at the 0.05 level.

The above mentioned table shows that total assets turnover ratio is having the impact of 3.3% and 12% on net profit and return on assets respectively. This indicates that total assets turnover ratio composition is the minor determining factor of Net profit and return on assets of the listed manufacturing companies in Sri Lanka. The major portion of the profitability is influenced by factors other than total assets turnover ratio. However, according to the F-statistics total assets turnover ratio was significantly related to ROA, with F-statistics 13.566 ($p = 0.000 < 0.05$) during the period of study. Therefore at 5% significance level, it can be statistically concluded that the model fits to analyze the relation between FATR and ROA. Therefore, it can be concluded that total assets turnover ratio has statistically significant impact on ROA and the hypotheses H_3 was accepted while rejecting H_6.

Further, it is crystal clear that positive association was found between all the independent and dependent variables.

Hypotheses Testing

No.	Hypotheses	Results	Tools
H_1	There is a relationship between working capital turnover and return on assets.	Reject	Regression
H_2	There is a relationship between fixed asset turnover and return on assets.	Accept	Regression
H_3	There is a relationship between total asset turnover and return on assets.	Accept	Regression
H_4	There is a relationship between working capital turnover and net profit.	Reject	Regression
H_5	There is a relationshipbetween fixed assets turnover and net profit	Accept	Regression
H_6	There is a relationshipbetween total assets turnover and net profit.	Reject	Regression

Conclusion and Recommendations

This study examined the impact of management efficiency on profitability in Sri Lankan listed manufacturing companies. The study covered 20 listed manufacturing companies over the period of five years from 2007 to 2011 and the major findings of the study are summarized below:

Total fixed assets turnover ratio was found to be significant in determining return on assets in the manufacturing industry of Sri Lanka. The mean values of fixed assets turnover ratio 4.55% and total assets turnover ratio was1.24% while the mean value of the working capital turnover ratio was 4.93%.

In this research working capital turnover, fixed assets turnover and total assets turnover, are taken as a comprehensive components of management efficiency, by using these variables the efficiency of both current and noncurrent assets management can easily be check. The results show that there is a positive relationship of working capital turnover with Return on assets and Net profit. This result confirms with previous studies, Padachi (2006); Lazaridis&Tryfonidis (2004); Shah and Sana (2006) and Christopher &Kamalavalli (2007), who found that positive relationship between working capital management and profitability. Therefore Firms can easily increase value for the shareholders by keeping the component of working capital optimal level. This results goes against the previous study of Raheman& Nasr (2007), they conducted strong negative relationship between working capital management and profitability.

Fixed assets turnover has proved statistically significant and has positive impact on both Return on assets and Net profit. This means that firms which maintain sufficiently high fixed assets levels it will be a cause to increase the profitability .This result consists with discussion of Munya (2010).

In this research Total assets turnover has proved statistically significant positive relationship with Return on assets and positive relationship with Net profit. Same result was concluded by Jamali and Asadi (2011) for the study auto manufacturing companies listed on the Bombay Stock Exchange. Therefore management team of each organization can be achieve to more profit through more efficient management by maintaining sufficiently high total assets turnover.

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The factors influence on Average Weighted Prime Lending Rate (AWPLR) of Commercial Banks - An empirical perspective in Sri Lankan context

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Abstract: The purpose of this study is to identify the factors affecting Average Weighted Prime Lending Rate (AWPLR) of Commercial Banks in Sri Lanka. It could also ascertain the factors which have significantly contributed to the high level of lending interest rates currently prevailing in the market. Many factors affect the Average Weighted Prime Lending Rate, of which the researcher identified and tested three variables based on operating commercial banks in Sri Lanka. Inflation, Average Weighted Deposit Rate (AWDR) and Statutory Reserve Ratio (SRR) were tested for the purpose this research.

The required data for this study was collected mainly from secondary data sources (Central Bank of Sri Lanka, Department of Census and Statistics - Sri Lanka).The sample data was collected from all 23 commercial banks operating in Sri Lanka on a monthly basis from 2005-2010. It has developed a multiple regression model to explain the behavior of AWPLR. Regression analysis, correlation coefficient analysis and graphical analysis were used to find the relationship between Inflation, Average Weighted Deposit Rate (AWDR) and Statutory Reserve Ratio (SRR) and AWPLR. Further, the collected data was analyzed mainly using the SPSS 16.0 software package and Microsoft Excel. The finding was that there is strong relationship between Inflation, Average Weighted Deposit Rate (AWDR) and Statutory Reserve Ratio (SRR) and Average Prime Lending Rate.

Keywords: Average prime lending rate, inflation, Average weighted deposit rate, statutory reserve ratio, commercial banks,

Introduction

The main source of income of any commercial bank is interest. It is a tradeoff between accept deposits and lending. It may also be defined as the compensation for the service and risk of lending money. Lenders also charge interest to recover their processing cost. Hence, lenders charge interest in order to compensate for inflation and bearing risk, for postponement of consumption, and to recover processing costs. Borrowers are prepared to pay interest because they are able to spend money to afford large purchases presently. Therefore, interest is the cost of borrowing money. Accordingly, interest can be considered as a cost to one party and income to another. Businesses are willing to pay interest to borrow for investments. Similarly, banks are willing to pay interest on deposits because they can lend those at a higher rate. Interest, computed as an interest rate is usually expressed as a percentage per annum and therefore, can be compared. In a competitive market, interest rates vary from day to day; tomorrow's interest rate will be different from today's interest rate.

The purpose of this paper is to identify the factors that determine the Average Weighted Prime Lending Rate of commercial banks in the context of Sri

Lanka. Initially, it explains the theoretical background of the interest rate and determinants of interest rates. In order to confirm the theory, the paper uses data and policies pertaining to the recent history of Sri Lanka.

Several factors determine the Average Weighted Prime Lending Rate of a commercial bank. According to a survey done by Bank of Zambia in 2010, it can be divided into three main categories namely- Cost of fund, economic condition and market condition. It can be classified as follows.

Table 1.1:
Factors affecting the Average Weighted Prime Lending Rate of a Commercial Bank

Factors	Cost Of Funds	Economic Condition	Market Condition
1	Statutory reserve ratio	Inflation	Credit risk premium
2	Liquidity Assets Requirement	Bond rate	Liquidity premium
3	Average weighted deposit rate	Exchange rate	Interbank rate
4	Taxation	Treasury bills	Overnight facility rate
5	Operating Cost		Demand and supply

Source: *Survey - Bank of Zambia, 2010*

Literature Review

An efficient and vibrant Commercial Banking and financial system is foremost indicator to an economy to perform in a country. Hence, Commercial Banking operations primarily depend on their ability to attract the savings from various deposit products and convert them into lending capacity (Khawja 2002). The difference between the rates at which banks lend money to borrowers and the rate they pay to depositors is generally known as Interest Rate Spread (IRS), which usually indicate as the Commercial Banks retail interest rate. An early work on price rigidities in the banking industry could be found in Hannan and Berger (1991). They focused on the setting of deposit interest rates by banks and addressed the issue of asymmetry between upward and downward price changes using a multinomial log it estimation procedure. IRS is also defined as the difference between average interest rate earned on interest earning assets (loans) and average interest rate paid on deposits (Jayaraman and Sharma, 2003). Weighted Average Lending Rate (WALR), Weighted Average Deposit Rate (AWDR) is primarily known as the two rates within IRS. Average Weighted Prime Lending Rate (AWPLR) is compiled weekly by the CBSL based on information provided by Commercial Banks regarding lending rate offered to their prime customers during the week. These loans are granted by Commercial Banks usually on a short term basis. Monthly averages of weekly AWPLR are taken to form this series. The CBSL compiles Average Weighted Deposit rates (AWDR) on a monthly basis based on the weighted average of all outstanding interest bearing deposit details provided by Commercial Banks with the corresponding interest rate.

Inflation is a rise in the general level of price of goods and service in an economy over a period of time (Economic review, 2009). It also can be described as a decline in the value of money. One way inflation might affect economic growth through the banking sector is by reducing the overall amount of credit that is available to businesses. Higher inflation can decrease the real rate of return on assets. Lower real rates of return discourage savings but encourage borrowing. At this point, new borrowers entering the market are likely to be of lesser quantity and are more likely to default on between good and bad borrowers, they may refuse to make loans, or they may at least restrict the quantity of loans made their loans. Banks may react to the combined effects of lower real returns on their loans and the influx of riskier borrowers by rationing credit. Inflation has positive relationship with bank lending rate (CBSL Annual report, 2010) and it is been measured by CCPI (Colombo Consumers Price Index) in Sri Lanka (CBSL Annual report 2010).

Several economists have found that countries with high inflation rates have shown the inefficient banking sectors and equity markets. This effect suggests that inflation reduces bank lending to the private sector, which is consistent with the view that a sufficiently high rate of inflation induces banks to ration credit. (John and Bruce, 2006)

An early work on price rigidities in the banking industry could be found in Hannan and (Berger, 1991). They focused on the setting of deposit interest rates by banks and addressed the issue of asymmetry between upward and downward price changes using a multinomial log it estimation procedure. Their primary findings were that price rigidity is significantly greater in markets characterized by higher levels of concentration and that deposit rates are significantly more rigid when the stimulus for a change is upward rather than downward Lowe and Rohling (1992).

Statutory Reserve ratio (SRR) is the proportion of the deposit liabilities that Commercial Banks are required to keep as a cash deposit with Central Bank, also has been widely used to influence money supply in the past. However, the reliance on SRR as a day to day monetary management measure has been gradually reduced with a view to enhancing market orientation of monetary policy and also reducing the implicit cost of funds which the SRR would entail on Commercial Bank. (Monetary Policy –CBSL).SRR has direct credit controls and moral suasion for effective results of AWPLR. (W M Hemachandra- CBSL, 2010)

In summary, studies researching the relationship between factors such as cost of fund, economic condition and market condition affect the Average Prime Lending Rate of commercial banks. However, they don't clearly indicate which dimension under each of this category of factors is most significant in determining the Average Prime Lending Rate. This is the area that this research intends to explore.

In short, there are many empirical evidence which demonstrate the influence of deposit rate (AWDR), inflation and Policy rate (SRR) on lending rate (AWPLR).

Methodology

Statement of problem:

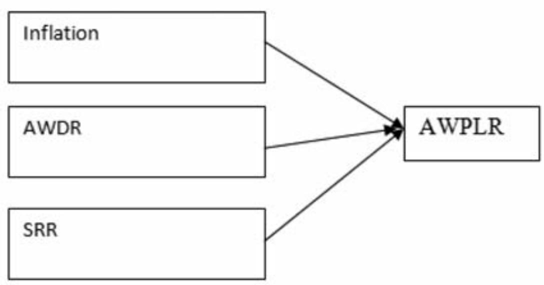
Borio and Fritz (1995) examined the relationship between the monetary policy rate, money market rate and the lending rate for a group of OECD countries. In 1999, Moazzami examined the short-run and long-run impacts of changes in money market rates on lending in Canada and the United States using an error-correction modeling framework, which distinguishes short term impacts from long-run or full equilibrium effects. Weth (2002) analyzed the relationships between German bank lending rates and both money market and capital market rates in the 1990s Very few studies have been done before connecting Statutory Reserve Ratio, Average weighted Deposit Rate and inflation. Hence, the researchers were attracted to do this research based on Sri Lankan context.

The following questions were raised by researcher based on the critical argument of the above literature

a) To find the factors which affect the Average Weighted Prime Lending Rate (AWPLR) of Commercial Banks in Sri Lanka?
b) To assess to what extent the interbank market influenced the cost of funds in the interest rate determination process?
c) To ascertain which factors have significantly contributed to the high level of lending interest rates currently prevailing in the market?

Conceptual frame work and Operationalization:

In the process of operationalisation the concept which could be visualized by the researcher is as follows.



Based on the above framework Inflation, AWDR and SRR are independent variables which determine the lending rate (AWPLR).

Data Collection

The required data for this study is collected mainly from secondary sources such as Central bank annual report and so forth. Inflation data was collected using the point to point increase of CCPI (Base 2002=100). The Average Weighted Deposit Rate (AWDR) is calculated by the Central Bank Based on the weighted average of all outstanding interest bearing deposits of commercial banks. The data was collected from the website of Central Bank of Sri Lanka. The Statutory Reserve Requirement Rate (SRR) is the proportion of rupee deposit liabilities that Commercial Banks are required to maintain as a deposit with the Central Bank.The AWPLR is calculated by the Central Bank and monthly data was analyzed from January 2005 to December 2010.

Data Analysis

The regression analysis, correlation coefficient analysis and graphical analysis were done to find out the factors affecting the AWPLR. In statistics, Regression analysis is a technique that examines the relationship of a dependent variable (response variable) to specify independent variable (Explanatory variable).

Research Model

Researcher identify the following multiple regression model to express the relationship between Inflation, Average Weighted Deposit Rate (AWDR) and Statutory Reserve Ratio (SRR) and Average Prime Lending Rate of commercial banks in Sri Lanka.

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_K X_{Ki} + e_i$$

Where

β_0 = Regression constant
β_1= Regression coefficient for variable X_1
β_K = Regression coefficient for variable X_K
K = Number of independent variables
e_i = Residual (Error)

In the study researcher use the following multiple regression equation.

$$AWPLR = \beta_1 + \beta_2 Inflation + \beta_3 AWDR + \beta_4 SRR$$

Statistical Analysis

The obtained data was analyzed using SPSS 16.0. Using regression analysis and correlation analysis the results were listed below.

Coefficients[a]

Model	Un standardized Coefficients		Standardized Coefficients		
	B	St. Error	Beta	t	Sig.
1 (Constant)	-7.467	1.237		-6.034	.000
INFLATION	.131	.019	.252	6.939	.000
AWDR	1.618	.074	.966	21.966	.000
SRR	.793	.099	.330	8.028	.000

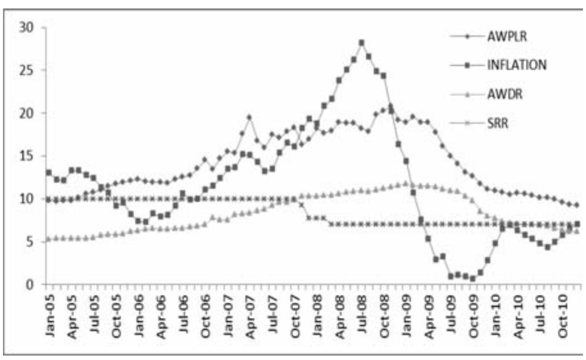
a. Dependent Variable: AWPLR

According to the output of the SPSS the complete statistical model is as follows

AWPLR = (-7.467) + 0.131 INFLATION + 1.618 AWDR + 0.793 SRR

This means, when inflation increased by one unit the AWPLR will increase by 0.131 units provided that other variable remain constant. If AWDR increased by one unit AWPLR will be increased by 1.618 units provided that other variable remain constant. Also, if SRR increased by one unit AWPLR will be increased by 0.793 units provided that other variable remain constant.

The graphical illustration also used to express the relationship between explanatory variable and dependent variable. The following graph was used to illustrate the dependent and independent variables.



Hypothesis Testing:

Researcher considered the hypothesis testing with a series of OLS (Ordinary Least Squares) estimations there are several tests involve and they are as follows:

t- Value Method

Data / Steps	Inflation	AWDR	SRR
Develop hypothesis	H_0 ; $b_1 = 0$ (Null hypothesis , $b_1 = 0$) H_a ; $b_1 \neq 0$ (Alternate Hypothesis , b_1 is not equal to 0)	H_0 ; $b_2 = 0$ (Null hypothesis , $b_2 = 0$) H_a ; $b_2 \neq 0$ (Alternate Hypothesis , b_2 is not equal to 0)	H_0 ; $b_3 = 0$ (Null hypothesis , $b_3 = 0$) H_a ; $b_3 \neq 0$ (Alternate Hypothesis , b_3 is not equal to 0)
Decision	6.939 > 1.96 (Calculated Z value > Table Z value) Therefore, we reject the null hypothesis (H_0).	21.966 > 1.96 (Calculated Z value > Table Z value) Therefore, we reject the null hypothesis (H_0).	8.028 > 1.96 (Calculated Z value > Table Z value) Therefore, we reject the null hypothesis (H_0).
Conclusion	The coefficient of Inflation (b_1) is statistically significant at 5% significance level.	The coefficient of AWDR (b_2) is statistically significant at 5% significance level.	The coefficient of SRR (b_3) is statistically significant at 5% significance level.

Analysis of Coefficient of Correlation (R), Coefficient of Determination (R2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.965[a]	.932	.929	.947288

a. Predictors: (Constant), SRR, INFLATION, AWDR

According to the SPSS output the R is 0.965 which is close to 1 and it could determine there is stronger positive linear relationship in the model.R^2 is 0.932 , which means 93.2% of the variation of AWPLR is described by independent variables in the model i.e. INFLATION , AWDR and SRR.

Analysis on statistical significance of the individual regression coefficients

The researcher tested statistical significance of each individual regression coefficients using t- values and p – values. Also it is considered the level of significance α = 5%. The graphical description of dependent variable (AWPLR) is explained with each independent variable (Inflation, ADWR, and SRR) . Here tested statistical significance of individual coefficient of the model is reflected and it proved both coefficients are statistically significant. Further p- value method also proved the same result.

5.2 Analysis on statistical significance of the overall model

The Researcher tested statistical significance of each individual regression coefficients using t- values and p – values. The researcher has also used F test to verify the overall significance of the model and the SPSS output is given below;

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.969[a]	.939	.936	.903699

a. Predictors: (Constant), AWDR, INFLATION, SRR

Based on the ANOVA table of SPSS, It was calculated that the F value is = 311.429. The results clearly indicate that the overall model is statistically significant even at 1% significance level. Therefore the model satisfy the basic assumptions.

Testing for Multicollinearity

The researcher used the pair –wise correlation to test the Multicollinearity of this model and found the following through SPSS output;

Model	t	Sign	Collinearity Statistics		
	Beta			Tolerance	VIF
(Constant)		-6.034	.000		
INFLATION	.252	6.939	.000	.758	1.320
AWDR	.966	21.966	.000	.515	1.940
SRR	.330	8.028	.000	.592	1.690

According to the output there is no multicollinearity in the model. That means there is no high correlation between independent variables (Inflation, Average Weighted Deposit Rate (AWDR) and Statutory Reserve Ratio (SRR). as a rule of thumb researcher use assumption if the VIF >10 only there exists a multicollinearity problem.

Conclusion

The study was done to identify the factors that affecting the Average Weighted Prime Lending Rate (AWPLR) of Commercial Banks in Sri Lanka .Inflation, AWDR and SRR were considered as the factors which affect AWPLR.The monthly data of AWPLR, Inflation, AWDR and SRR was obtained for the period from 2005 January to 2010 December and SPSS 16.00, Microsoft Excel were used to the analysis.

According to the SPSS output 93.2% of the variation of AWPLR is described by independent variables Inflation, AWDR and SRR. Also the adjusted R^2 is very close to R^2 which shows additional variable has not distort the explanatory power of the model. Further at 5% level of significance, over all model was statistically significant (tested using F test) and as well as the Individual coefficient too were statistically significant at 5% level of significance.(tested using t-test and p- value methods)

The research was limited with only three independent variables such Average Deposit Rate, Inflation and Statuary Reserve Ratio. Further study can be done in Sri Lankan context using other factors, as available in the table-1.1, which affect the Average Weighted Prime Lending Rate of a commercial bank.

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