

“FOSTERING RESEARCH CULTURE IN FACING ECONOMIC CRISIS  
THROUGH DEONTOLOGICAL ETHICS”



# SACFIRE 2022

8<sup>TH</sup> SYMPOSIUM OF ACCOUNTANCY & FINANCE RESEARCH

# PROCEEDINGS



**Department of Accountancy**

Faculty of Business Studies & Finance  
Wayamba University of Sri Lanka  
Kuliyaipitiya



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**Department of Accountancy**

Faculty of Business Studies and Finance

Wayamba University of Sri Lanka

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# *Behavioural Economics and Quantitative Finance*

## **Factors determining household investment behavior in Kurunegala district**

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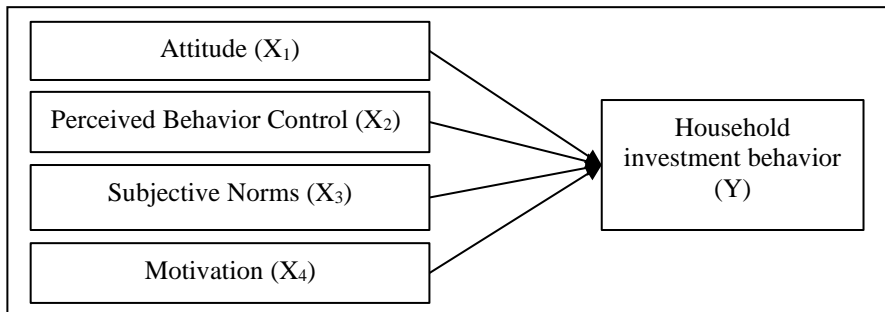
### **Introduction**

Investment is the major factor in any field existing in the world. Simply investment refers to putting money into something in the hopes of making money in the future (Syed et al., 2017). Households, society's smallest unit, make interdependent economic decisions. Household investment drives economic development in emerging nations. Banks may collect society's idle money via investing (Mahmud, 2020). Household investing involves asset optimization and financial instrument and stock purchases (Chen et al., 2018). Household investment is highly affected by the economic welfare of the country (Mahmud, 2020). Gender, age, marital status, family type, education level, monthly income level, monthly savings, source of investment, investment types, investment level (Selvakumar & Manicka Mahesh, 2015) workplace organization, education level, attitude, motivation, subjective norm and perceived financial behavior (Rahadjeng & Fiandari, 2020) are few demographic, socio-economic, financial factors and psychological and sociological factors that determine the household investment behavior. Furthermore, in 2020 Rahadjeng & Fiandari showed that attitudes, subjective norms, and behavioral control have an influence on the investment in shares. When considering the other country in the world, Sri Lankan household investment is at a lower level. This research tries to identify the relationship between household investment determinants household investment behavior, and factors that affect household investment of peoples who are in the Kurunegala district and identify the relationship between that factors and household investment behavior. Many researchers emphasize that many factors are affecting household investment in the world. But the research on household investment behavior in Sri Lanka is a significant research context. Therefore, to fulfill the research gap objective of this research is to identify the influencing factors that determining household investment which provides the answer for the research question of what is the most influential factor that determining household investment behavior?

### **Methodology**

In order to determine the factors that determine household investment based on the referred literature, the researcher developed a conceptual framework considering the psychological behavior of household investors. Household investment behavior is the dependent variable while attitude, perceived behavior control, subjective norm, and motivation are the independent variables of this research. A self-developed conceptual framework is shown in Figure 1. The household investment behavior and the conceptualized factors behave at different levels. Therefore, the researcher measured

the levels by using five-point Likert scale statements indicating strongly agree (5) and strongly disagree (1).



**Figure 1. Conceptual Framework**

*Source: Author Constructed, 2022*

The population of this study is the households in the Kurunegala District in Sri Lanka while the sample is 150 households in the entire Kurunegala district. With the aid of convenience sampling methods, the researcher had been selected 150 sampling units for the study sample. Respondents of this study were the head of households in the selected households. Considering the purpose of the study and the resource availability primary data were collected through a structured questionnaire. Therefore, an online self-enumeration method is the survey method of this study. Structured questionnaire converted into a Google form and distributed among respondents through E-mails and personal contacts. The questionnaire was distributed in both English and Sinhala medium.

In order to achieve the research objective to identify the relationship between household investment behavior and different types of factors correlation analysis was carried out furthermore, to identify the most influential factor multiple linear regression analysis was carried out with the aid of the SPSS 26 version. The hypothesis of this study regarding the conceptual framework in Figure 1 is as follows.

H<sub>0</sub>: Factors do not influence on household investment behavior

H<sub>1</sub>: Factors are influence on household investment behavior

Reliability and validity of data measured by Cronbach's Alpha value and Kaiser-Meyer-Olkin (KMO) value respectively. Reliability of variables is recorded as above 0.7 and KMO value is recorded as above 0.8 indicating the collected data are suitable for advanced analysis.

## Findings

In order to attain the objective of identifying the relationship between the influencing factors and household investment behavior, the researcher carried out a correlation analysis. Household investment behavior is the dependent variable (Y) while attitude (X<sub>1</sub>), perceived behavior control (X<sub>2</sub>), subjective norms (X<sub>3</sub>), and motivation (X<sub>4</sub>) are

the independent variables of this study. Table 1 indicates the results of correlation analysis among household investment behavior and other independent variables.

**Table 1: Results of Correlation Analysis**

Variable	Correlation with Y	P-value
Attitude ( $X_1$ )	0.800	0.000
Perceived behavior control ( $X_2$ )	0.635	0.000
Subjective norms ( $X_3$ )	0.768	0.000
Motivation ( $X_4$ )	0.688	0.000

According to Table 1, the existing relationship between household investment behavior and other factors is significant. Attitude and household investment behavior has a strong positive relationship ( $r=0.8/P=0.000$ ) while subjective norms and household investment behavior also have a strong positive linear relationship ( $r=0.635/P=0.000$ ). Household investment behavior and perceived behavior control have a moderate positive linear relationship ( $r=0.768/P=0.000$ ). Furthermore, motivation is also positively correlated ( $r=0.688/P=0.000$ ) with household investment behavior at a moderate level.

In order to fulfill the requirement of identifying the most influencing that determining household investment behavior in Kurunegala district, the researcher carried out a regression analysis. The results of the regression analysis are shown in Table 2.

**Table 2: Results of Regression Analysis**

Variable	Coefficient	Std. Error	t-Statistic	Prob.	VIF
C ( $\beta_0$ )	3.349	0.621	5.395	0.000	-
$X_1$ ( $\beta_1$ )	0.206	0.041	5.061	0.000	3.52
$X_2$ ( $\beta_2$ )	0.089	0.055	1.610	0.110	1.99
$X_3$ ( $\beta_3$ )	0.187	0.072	2.602	0.010	3.68
$X_4$ ( $\beta_4$ )	0.159	0.064	2.482	0.014	2.34
R-squared		0.702	Adjusted R-squared		0.694
F-statistic		85.418	Probability(F-statistic)		0.000
Durbin-Watson statistic		2.045			

According to Table 2, the F-statistic is significant ( $F=85.418/P=0.000$ ). Thus, it can be concluded with 95% confidence that the fitted model is significant. It implies at least one independent variable significantly affects household investment behavior in the Kurunegala district.

Table 2 indicates that attitude ( $\beta_1=0.206/P=0.000$ ), subjective norms ( $\beta_3=0.187/P=0.010$ ) and motivation ( $\beta_4=0.159/P=0.064$ ) are significant but perceived behavior control ( $\beta_2=0.089/P=0.110$ ) is not a significant influencing factor on household investment behavior in the Kurunegala district. Therefore, the most influential factor on household investment behavior is an attitude which shows the highest coefficient value in the regression model.

According to Table 2, the observed VIF values are not greater than five. It indicates that there is no multicollinearity evidence among independent variables. Also adjusted  $R^2$  value is 0.694. It indicates that the 69.4% of the observed variability of the household investment behavior is explained by the fitted model. The fitted model can be expressed as follows.

$$Y = 3.349 + 0.206X_1 + 0.187X_3 + 0.159X_4$$

Where;  $X_1$  = Attitude,  $X_3$  = Subjective norm,  $X_4$  = Motivation

## Conclusion

According to correlation research, household investment behavior strongly correlates with attitudes and somewhat with perceived behavior cost, subjective norms, and motivation. Furthermore, the results of regression analysis show that attitude, subjective norms, and motivation are the significant influencing factors that determine household investment in Kurunegala District. But perceived behavior control is not a significant influence factor on household investment. Finally, the fitted regression model can be expressed as follows;

$$\text{Household investment behavior} = 3.349 + 0.206 \text{ Attitude} + 0.187 \text{ Subjective norm} + 0.159 \text{ Motivation}$$

Attitude is the highly impacted determinant for the household investment behavior in Kurunegala District since it shows a 0.206 rate of changing the household investment behavior.

The researcher chose an online survey over an onsite one due to the study's circumstances. Therefore, the investors who are not much familiar with the online platform were not included in the sample. The researcher chose four variables from the literature to meet this study goal. This can be identified as a limitation of this research.

Suggests introducing more household investment opportunities with a higher level of return and lower level of risk by indicating the importance of household investment to the country and investors. Implement new programs to motivate household investment by giving an incentive or appreciation or relief where necessary to investors who are doing household investments effectively and efficiently. Recommend to the institutes that are authorized to acquire household investments, introduce new programs to improve the awareness of investors' financial literacy.

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## **Can the USD and Yuan forex trading markets determine the bitcoin prices today?**

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### **Introduction**

Cryptocurrency has become the worldwide hotspot and it is the cutting edge of FinTech innovations. The complete list of cryptocurrencies is more than 2,000. Even so, the drastic changes in cryptocurrency prices affect the behavior of cryptocurrency investors (Liang, Li, Chen, & Zeng, 2019). However, with the increasing popularity of cryptocurrencies, as a financial asset, Bitcoin has displayed strong progress in both its prices and trade volume over a short period.

Besides, US Dollar (USD) is considered a benchmark currency and is used mostly in worldwide transactions. Further, Yuan is the currency of one of the world's biggest economic superpowers (Qiu & Zhao, 2019). Siddiqui (2020) found that two-thirds of foreign exchange reserves still consist of USD over the last four decades. Meanwhile, the Chinese Yuan has become one of the major recognized global currencies in the foreign exchange market. Besides, Cheong (2019), stated that cryptocurrency can be a more successive hedge against foreign exchange risks by comparing cryptocurrencies like Bitcoin, Ethereum, Ripple, and Litecoin with other common hedging instruments such as gold or a diversified currency portfolio. Thereby, we observed an upsurge in competition among Bitcoin, USD, and Yuan in the secondary market.

Based on the "supply and demand theory of exchange rate", Tanamarttayararat (2018) stated that the exchange rate of currencies is affected by the demand and supply of that currency. Further, the behavior of the cryptocurrency market and foreign exchange market is considered to be similar. Although geographical regional clustering has been observed for the foreign exchange market, no apparent clustering rule applies to the cryptocurrency market. However, Borgards & Czudaj (2020) revealed that price overreactions are widespread in the cryptocurrency market which was due to the investors' unawareness of the intrinsic value of the corresponding cryptocurrency. Thereby, this paper intends to empirically address the connectivity of the foreign exchange market and Bitcoin market.

Investors consider Bitcoin, USD, and Yuan, not only as general currency but also as investment assets. However, due to the violent fluctuations, Bitcoin is a speculative asset (Fang, Tian, & Wang, 2018); thus, the risk takers tend to invest more in such



assets expecting higher returns. Accordingly, we doubt whether such aggressive behavior of risk-takers in the Bitcoin market can be influenced by the demand and supply of USD and Yuan as financial assets. This phenomenon motivated us to study the impact of USD and Yuan on the performance of Bitcoin in secondary market dealings. While supporting our objective Borgards and Czudaj (2020) have emphasized the need for awareness of the linkage between cryptocurrencies and traditional currencies. Accordingly, we intended to find an answer to the question of whether the performance of USD and Yuan within the forex market has an impact in determining today's market price of a Bitcoin?

## Methodology

We used a deductive research approach and designed the methods of study using quantitative research techniques. We conducted an experiment using secondary daily time-series data for five years period from 01<sup>st</sup> January 2015 to 01<sup>st</sup> January 2021 including 1,599 observations. We intended to analyze the cause-and-effect relationship between the performance of cryptocurrency, USD, and Yuan. We used the average of opening and closing prices daily and evaluated the causality behavior of the time series data. Finally, we derived the GARCH (1,1) model by introducing USD and Yuan as mean regressors to confirm the results obtained through the causality test.

## Findings

The P values of the Jarque-Bera test confirmed that the data are non-normally distributed. When the coefficient values of variables substantially exceed the thresholds for normal variability, can use the logarithmic characters in the calculations proceed with the normalization of the distribution. Further, the Augmented Dickey-Fuller test results confirmed that the data follows stationary distribution at its first differentiation I(1). Accordingly, we used the log values of the time series data for further analysis while assuring the predictability of the systematic pattern of time series data.

The results of the Granger Causality test (Table 1) confirmed that bivariate causality does not exist between Yuan to Bitcoin, Bitcoin to Yuan, USD to Bitcoin, and Bitcoin to USD.

**Table 3: Pairwise Granger Causality Tests**

<b>Lags: 2</b>			
<b>Null Hypothesis:</b>	<b>Obs</b>	<b>F-Statistic</b>	<b>Prob.</b>
Yuan does not Granger Cause Bitcoin	1557	0.7564	0.4696
Bitcoin does not Granger Cause Yuan		0.5542	0.5746
USD does not Granger Cause Bitcoin	1557	0.7353	0.4795
Bitcoin does not Granger Cause USD		0.5816	0.5591

The correlogram of partial autocorrelation of each time series confirmed that one-day prior time series data of each variable can be used to forecast future series of its own. Accordingly, in addition to the exogenous variables, one lagged data (-1) of the own variable has been used to evaluate the performance of each market.

**Table 4: GARCH (1,1) Models**

<b>Model 01</b>			<b>Model 02</b>		
<b>Dependent Variable: Bitcoin</b>			<b>Dependent Variable: Bitcoin</b>		
<b>Variable</b>	<b>Coefficient</b>	<b>Prob.</b>	<b>Variable</b>	<b>Coefficient</b>	<b>Prob.</b>
C	-0.0441	0.2923	C	-0.0442	0.2910
Bitcoin (-1)	0.9988	0.0000	Bitcoin (-1)	0.9988	0.0000
Yuan	-0.0291	0.2149	USD	0.0292	0.2138
Variance Equation			Variance Equation		
C	0.0001	0.0000	C	0.0001	0.0000
RESID (-1) ^2	0.1826	0.0000	RESID (-1) ^2	0.1826	0.0000
GARCH (-1)	0.7883	0.0000	GARCH (-1)	0.7883	0.0000

The GARCH (1,1) models illustrated in table 2 exhibit the impact of yesterday's average Bitcoin price and today's average Yuan and USD price in determining the average market price of a Bitcoin today. As per the results of the model, the one lagged of the same time series (i.e. yesterday's average Bitcoin price) shows a significant impact in determining today's market price of a Bitcoin. However, neither today's market price of Yuan nor today's market price of USD has any significant impact in determining today's market price of a Bitcoin.

**Table 5: GARCH (1,1) Models**

<b>Model 03</b>			<b>Model 04</b>		
<b>Dependent Variable: Bitcoin</b>			<b>Dependent Variable: Bitcoin</b>		
<b>Variable</b>	<b>Coefficient</b>	<b>Prob.</b>	<b>Variable</b>	<b>Coefficient</b>	<b>Prob.</b>
C	-0.0443	0.2913	C	-0.0443	0.2918
Bitcoin (-1)	0.9988	0.0000	Bitcoin (-1)	0.9988	0.0000
Yuan (-1)	-0.0292	0.2142	USD (-1)	0.0292	0.2146
Variance Equation			Variance Equation		
C	0.0001	0.0000	C	0.0001	0.0000
RESID (-1) ^2	0.1826	0.0000	RESID (-1) ^2	0.1826	0.0000
GARCH (-1)	0.7883	0.0000	GARCH (-1)	0.7884	0.0000

Table 3 illustrates the impact of yesterday's average Bitcoin price, yesterday's average Yuan, and USD price in determining the average price of Bitcoin today. The results confirmed that even yesterday's average Yuan and USD prices are insignificant in determining today's average market price of a Bitcoin. Ultimately, the GARCH (1,1) model results also confirmed that there is no significant impact from the USD and Yuan exchange markets on the performance of Bitcoin in secondary market dealings.

When evaluating the variance equations of all four models, ARCH and GARCH parameters are close to one, indicating that the shocks to the conditional variance of Bitcoin will be quite persistent. This large sum of the coefficients will imply that a

large positive price of variables will lead the future forecast of the variance to be high. But these shocks will not have a permanent effect, hence the sum of the ARCH and GARCH coefficients is not equal to one. So, based on these generated results, hence the GARCH coefficient value is higher than the coefficient of RESID, and it can be concluded that volatility is highly persistent in the Bitcoin market.

## Conclusion

This study compared the performance of cryptocurrencies with USD and Yuan exchange rates by formulating the Granger causality test and GARCH (1,1) model. Further to the findings, we confirm that the forex trading prices of USD and Yuan for a given day, or a day prior have no impact on determining the market price of Bitcoin for a given day. With this finding, we ensure that the investors who expect to be future market participants in the Bitcoin market shall be benefited by considering the behavior of the Bitcoin market on the prior day or within the day. Further, Bitcoin investors may refrain from panic responses even at the short position in the forex trading market. However, the models confirmed that the Bitcoin market has its own shocks that are persistent yet have no permanent effect. Thereby, investors should pay more attention to the Bitcoin market itself to ensure the robustness of their investments.

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## **The relationship between liquidity risk and bank performance**

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### **Introduction**

Banks are known as financial intermediaries who safeguard, transfer, exchange, and lend money. Banks also like other businesses which must earn a profit to survive in the market. There are 2 types of banks as; Commercial / Retail Banks and Investment Banks. Depending on the type, banks will provide a variety of financial services. Banks will safeguard peoples' cash, facilitate financial transactions, insure liquid assets, provide debit card and credit card services, earn interests, borrow loans and many more. Therefore, banks play a massive role in every human's life. Banks also help the growth of the economy. In a bank's normal routine, banks allocate funds from savers to borrowers in an efficient manner which can also take a key component of the financial system. Banks operate usually by accepting deposits. Another way is to borrow from the money markets.

Banking activities are based on Liquidity. So, the first product/service of each bank is liquidity. Therefore, more attention should be paid to the liquidity risk when involving banking activities. The Liquidity risk of banks occurs due to the funding of long-term assets by using short-term resources. This risk can lead to the fragility and failure of the banks and make them unstable. To survive in the competition banks must have a strong performance and a good reputation. Because at some point, depositors pay attention to the bank's reputation in the industry. But this Liquidity risk does not affect only the bank's performance, but the reputation of bank. Also, this can cause the erosion in depositor's confidence which can cause an opportunity cost.

The Sri Lankan banking sector is the most involved sector when financing the Sri Lankan economy since the market finance is not well developed yet. Therefore, the Sri Lankan banking industry is more and more important to the economy. The objective of the study is to investigate the relationship between liquidity risk and bank performance in Sri Lanka. Liquidity risk is the most dangerous risk in a bank. Not only does it endanger the safety of every commercial bank itself, but it also affects the security of the entire banking system. Diamond and Dybvig (1983) suggested that the link between liquidity risk and bank performance is not that much clear. Some studies have shown a positive relationship between liquidity risk and bank performance in Africa. Also, Arif & Anees, 2012 have proved that there is a positive relationship between liquidity risk and bank performance in Asian countries. As well as, some studies have not found any link between liquidity risk and bank performance.

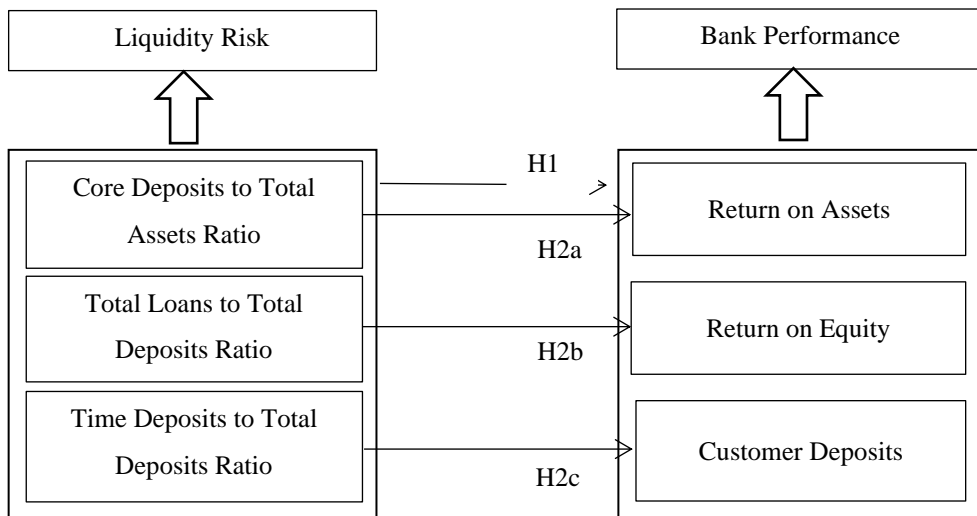
Therefore, it is vital for addressing this research problem of "how does liquidity risk affect bank performance?" Even though many studies have been done in an

international context, the studies in this arena being at - a very infancy level in the Sri Lankan context. This study was undertaken to fill this research gap. Hence, the study has three objectives; to examine the nature of the liquidity risk, to investigate the performance of the identified banks, and to explore how the liquidity risk influences bank performance.

## Methodology

According to the central bank of Sri Lanka, there are 26 licensed commercial banks as of 30<sup>th</sup> September 2021. This research relies on the secondary data (last 5 years of the selected banks) which was gathered using the financial reports and the banks' annual reports taken from the Colombo Stock Exchange official website. The selected data were analyzed by using the E-Views 9.5 packages. Bank performance was measured by Return on Assets (ROA), Return on Equity (ROE), and Customer Deposits (Dep). Liquidity Risk was measured through the Core Deposits to Total Assets Ratio (RDTA), Total Loans to Total Deposits ratio (RLTD), and Time Deposits to Total Deposits Ratio (RDTD). This research takes the quantitative research approach due to the fact that statistical data were collected using secondary data sources. The population of the study was 26 licensed commercial banks and 10 banks were selected as the sample.

The following figure presents the conceptual framework of the study.



**Figure 1. Conceptual Framework**

*Source: Constructed by authors*

Multiple Regression Analysis, Correlation Analysis, and Descriptive Statistics were used to determine the relationship between liquidity risk and the banks' performance. The relationship that is being extracted through the regression analysis can be presented in the following formulas.

$$ROA = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$$

$$ROE = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$$

$$CD = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$$

Where;

ROA - Return on Assets, ROE - Return on Equity, CD - Cash Deposits,  $\beta_0$  - Constant Value,  $\beta_1$  - Co-efficient of  $X_1$ ,  $\beta_2$  - Co-efficient of  $X_2$ ,  $\beta_3$  - Co-efficient of  $X_3$ ,  $X_1$  - Ratio of Core Deposit to Total Assets,  $X_2$  - Ratio of Total Loan to Total Deposits,  $X_3$  - Ratio of Time Deposit to Total Deposits,  $\varepsilon$  - Error Term

H<sub>1</sub> There is a significant relationship between liquidity risk and bank performance

H<sub>2a</sub> The ratio of core deposits to total assets has an impact on return on assets

H<sub>2b</sub> There is a significant influence on ratio of total loans to total deposits on Return on Equity

H<sub>2c</sub> The ratio of Time deposits to total deposits has an impact on customer deposits

## Findings

**Table 1. Results of the Correlation Analysis**

		Dep	ROE	ROA	RDTA	RLTD	RDTD
Dep	Pearson	1	.716*	0.461	0.343	0.327	-0.547
	Correlation Sig. (2-tailed)		0.02	0.18	0.332	0.356	0.102
ROE	Pearson	.716*	1	.653*	0.204	0.091	0.015
	Correlation Sig. (2-tailed)	0.02		0.041	0.572	0.802	0.966
ROA	Pearson	0.461	.653*	1	0.012	0.089	-0.002
	Correlation Sig. (2-tailed)	0.18	0.041		0.973	0.806	0.996
RDTA	Pearson	0.343	0.204	0.012	1	.859**	-0.293
	Correlation Sig. (2-tailed)	0.332	0.572	0.973		0.001	0.412
RLTD	Pearson	0.327	0.091	0.089	.859**	1	-0.465
	Correlation Sig. (2-tailed)	0.356	0.802	0.806	0.001		0.176
RDTD	Pearson	-0.547	0.015	-0.002	-0.293	-0.465	1
	Correlation Sig. (2-tailed)	0.102	0.966	0.996	0.412	0.176	

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

Where;

RDTA = Ratio of Core Deposits to Total Assets, RLTD = Ratio of Total Loans to Total Deposits, RDTD = Ratio of Time Deposits to Total Deposits, Dep = Customer Deposit, ROE = Return on Equity, ROA = Return on Assets

RDTA has a skewness of 1.975. It means that RDTA is highly skewed. RLTD has a skewness of 3.162 which also shows a highly skewed situation. When analyzing the RDTD and ROE, they both have 0.206 and -0.101 skewness respectively which described them as fairly symmetrical. And Dep and ROA show 0.677 and -0.515 skewness respectively. Therefore, they show a moderately skewed situation. Normally, the Kurtosis value should be near 3. In this case, only RDTA is near 3 with a 3.838 kurtosis value. Therefore, it is known as leptokurtic. Except that, all the other variables are a little bit far from 3 and all of them except RLTD have negative values. It means the data are platykurtic or flattened.

The results of this study reveal a significant impact of all the factors of liquidity risk on the performance of the banking system. An increase in deposits will help the banks to increase their profitability. Banks will not have to rely on the central bank or repo market to meet the demands of other depositors. Moreover, the bank may productively use this depositor's funds.

From the results of regression analysis, it is evident that the RDTA, RLTD, and RDTD have unstandardized coefficients of -0.10, 0.006, and 0.004 respectively when ROA is the dependent variable. When ROE is the dependent variable, the followings can be taken as unstandardized coefficients of RDTA, RLTD, and RDTD respectively 0.268, -0.078, and 0.006. Again, with Dep as the dependent variable, 25.32, -8.033, and -34.843 can be taken as the unstandardized coefficients of RDTA, RLTD, and RDTD respectively.

According to the results of the data analysis, the hypotheses of the study have been tested and they were accepted.

## **Conclusion**

According to the details of the study, the liquidity risk of the banking sector has a great influence on Customer Deposits. It doesn't mean that liquidity risk doesn't affect the Return on Assets and Return on Equity. But more than ROE & ROA, Customer Deposits affect the most.

Less attention to liquidity problems may adversely affect a bank's profitability, capital and with under extreme circumstances, it may cause to collapse or solvency of the banks. In addition, if a bank has high liquidity problems, it might face difficulties when meeting the depositor's demands.

It is vitally important for the managements of the banks to be aware of their liquating position in different segments. This will help the banks to enhance their investment portfolio and provide a competitive edge in the market. Therefore, paying required attention to liquidity problems must be the utmost priority of the management of a bank. These problems should be properly

addressed. Also, immediate remedial measures should be taken to avoid the consequences of liquidity.

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## **Impact of financial literacy on investment decision of individual investors in Colombo Stock Exchange**

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### **Introduction**

Sri Lanka is regarded as a nation with an excellent educational system and a greater proportion of illiteracy. Poor financial decision-making, bad financial practice, less net wealth accumulation, inability to make informed financial decisions, worse saving habits, lack of portfolio diversification, inadequate stock participation, inability to make personal contributions, poor retirement planning, and unpreparedness for post-retirement times could all result from a lack of financial literacy (Davis et al., 2006). The preceding research indicates that it is important to consider how financial literacy affects investment choices. Therefore, this study fills the research problem by answering the research question of “how far does financial literacy impact on investors’ decision-making in Kurunegala district?” The objective is to investigate the impact of financial literacy on investors’ decision-making in Kurunegala district, Sri Lanka. Moreover, this study mainly focuses on three dimensions of financial literacy namely financial knowledge, behavior, and attitude, and to what extent they impact on investors’ decision-making.

### **Methodology**

This study used a quantitative research methodology and tested established hypotheses based on accepted ideas and concepts using a deductive method. The study’s target audience is the local Kurunegala district’s private investors. A systematic questionnaire was used to obtain primary data from CSE investors in the Kurunegala area. The concept and measurement served as the foundation for the questionnaire on financial literacy and investing choices. Investor decision-making is the dependent variable of this study, and financial literacy has an independent influence on investor decision-making. The three components of financial literacy are financial knowledge, financial behavior, and financial attitudes. There for questionnaire consists of five sections with twenty-three questions in total. Section one consists of covering demographic information about the investors. Section two includes questions related to the Financial Knowledge of respondents. Section three includes questions related to financial behavior investment decisions. Section four includes four questions about the financial attitudes of respondents. Final Section is section five it includes questions measuring the investors’ decision-making in their overall financial literacy. In order to make the selection process effective, probability sampling is used as the sampling strategy. 230 questionnaires in total were distributed to the participants by random sampling. 27 incomplete surveys were disregarded, leaving 203 questionnaires that were included in the data analysis. The analysis was conducted using IBM SPSS

software. The analytical techniques employed in this study were the reliability test, demographic analysis, correlation analysis, regression analysis, and hypothesis testing. Research quality is assessed using a reliability test. The reliability test is concerned with a measure's correctness, whereas reliability is concerned with its consistency. The demographic analysis, it was utilized to provide information on research participants and is required to determine whether the subjects in a study are representative of the intended population for generalization purposes. The relationship, patterns, noteworthy connections, and trends between the independent and dependent variables are found using correlation analysis. Regression analysis concentrates more on the relationship between changes in the independent factors and changes in the dependent variable. To determine whether the null hypothesis may be accepted or rejected, hypothesis testing is used. Davis, Keebler, and Willan (2006) demonstrate that a positive link between financial behavior, broad approaches to high levels of preparation, and retirement income planning. Thus, the following are the hypothesis:

H1: There is a positive significant impact of financial knowledge on the investment decision-making of individual investors in CSE.

H2: there is a positive significant impact of financial behavior on the investment decision-making of individual investors in CSE.

H3: there is a positive significant impact of financial attitude on investment decision-making of individual investors in CSE.

## **Findings**

### *Reliability test*

The relevant Cronbach's alpha values for financial knowledge, financial attitude, and financial behavior are 0.674, 0.677, and 0.712. Each variable's value is above 0.7, which means the results of the reliability analysis confirmed that consistency is at an acceptable level for each variable.

### *Descriptive analysis*

from the descriptive analysis of the demographic data, the sample's respondents are more likely to identify as male and married, with mean values of 1.45 and 1.47, respectively. The age category has a mean of 3.68, indicating that most respondents fall into the second category of the age groups listed on the survey; 21 to 30 years old, to be exact. There are identical minimum values as 2 without the verification of the decision-making of the investors. The highest mean value was found in financial behavior, with a minimum value of 1 and a maximum value of 5 for all variables. A lower mean is used in investors' decision-making and has a value of 4.05 It has a 3.60 value. The financial knowledge variable has the greatest standard deviation value of 0.694. The lowest value was 0.580 for the financial conduct variable. Based on the skewness. The skewness of every variable is more than 0.5. The financial conduct variable has the largest skewness. Its value is 0.679, and its lowest value was 0.624, according to a financial knowledge variable.

### Correlation analysis

At a 99% level of confidence, the correlation matrix results show a significant association between financial knowledge ( $r = 0.756^{**}$ ,  $P < 0.01$ ), financial conduct ( $r = 0.673^{**}$ ,  $P < 0.01$ ), and financial attitude ( $r = 0.742^{**}$ ,  $P < 0.01$ ). As a result, investors' investment selections are positively connected with their financial knowledge, financial conduct, and financial attitude.

**Table 1. Correlation Analysis**

		TFK	TFA	TFB	TIDM
<b>TFK</b>	Pearson Correlation	1	.742*	.673	.756
	Sig. (2-tailed)		.003	.000	.001
<b>TFA</b>	Pearson Correlation	.742*	1	.865**	.748
	Sig. (2-tailed)	.003		.000	.000
<b>TFB</b>	Pearson Correlation	.673	.865**	1	.649
	Sig. (2-tailed)	.000	.000		.002
<b>TIDM</b>	Pearson Correlation	.756	.748	.649	1
	Sig. (2-tailed)	.001	.000	.002	

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

### Regression analysis

According to the regression analysis at 0.05 levels, financial conduct ( $r=0.049$ ,  $p<0.05$ ), financial attitude ( $r=0.336$ ,  $p<0.05$ ), and financial knowledge ( $r=0.056$ ,  $P<0.5$ ) all significantly positively affect investment decisions. According to the modified R2 value of 0.789, variation in the three components of financial literacy financial knowledge, financial behavior, and financial attitude explains 78.9% of the overall variance in investment decisions. The findings suggest that factors related to financial literacy have a favorable, significant impact on investment choices. Because financial knowledge, financial behavior, and financial attitude have a positive, significant impact on investment decisions, the hypotheses (H1, H2, and H3) are supported by the data.

**Table 2. Coefficients**

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	2.848	.454		15.656	.000
<b>FK</b>	0.42	.053	.056	.789	.000
<b>FA</b>	.040	.058	.048	.679	.000
<b>FB</b>	.044	.063	.049	.689	.000

### Hypothesis testing

According to the correlation analysis financial knowledge and investors' decision-making has a 0.756 positive relationship with a significant value of 0.001. Under the regression analysis, the variable of Financial knowledge and investors' decision-making has a 0.056 weakly positive relationship with a significant value of 0.000. Therefore H1 can accept and H0 can reject under both of these analysis. According to

the correlation analysis. Financial attitudes and investors' decision-making as a 0.748 strongly positive strong relationship with a significant value of 0.000. Under the regression analysis, the variable of financial attitude and investors' decision-making has a 0.048 weakly positive relationship with a significant value of 0.000. therefore, H2 can accept and H0 can reject both of these analyses. According to the correlation analysis financial behavior and investors' decision-making has a 0.649 positive strong relationship with a significant value of 0.002. Under the regression analysis, the variable of financial behavior and investors' decision-making has a 0.049 weakly positive relationship with a significant value of 0.000. Therefore, H3 can accept and H0 can reject based on the regression results

## Conclusion

The study shows that there are statistically significant disparities between the level of financial literacy and gender, material status, age, and salary. Investors' financial condition and well-being are impacted by many financial behaviors, attitudes, and knowledge such as choosing financial goods without doing market research, failing to budget for future expenses, or postponing bill payments (Agnew & Szykman , 2005). Additionally, the survey shows that rather than stocks and bonds, ordinary investors are considerably more comfortable with bank savings and insurance. For logical financial decision-making, overall financial welfare, and navigating through the worst financial circumstances, financial literacy is a crucial ability in complex financial scenarios. This is because investors who are financially literate are more likely to comprehend and make decisions that would enable them to avoid some egregious mistakes, reduce their losses, and make the best financial decisions. so maximizing their financial well-being. Additionally, the sample was gathered from local Kurunegala district investors. Further studies should focus further on expanding the sample and improving the sample representation. Future studies could consider using some more qualitative techniques to gather information about investors' financial literacy levels. Investors will have a greater understanding of the subject, but they might answer with the expected response rather than their true intent. It is advised to perform an observational study in order to gain knowledge about financial literacy and investment choices.

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## **Digital financial literacy and business performance: empirical evidence from small and medium sector businesses in Sri Lanka**

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### **Introduction**

The digital financial services and products which supply by digital channel has been improved because of Covid 19 pandemic and growing the financial technology. Under the lockdown situation, Digital Financial Literacy (DFL) has given options to customers user-friendly, and accessible. Today, mobile money and digital wallets have become normal tools with developing technology. People can do their transactions fast and easily in their homes and when they go out because of some digital applications. Financial technologies and digitalization are only a few methods from methods of converting financial management.

Kentaro Toyama has said that “technology has no transformative capacity in and of itself, and the technology use can only amplify existing human capacity and intent: it cannot act as a substitute where human capacity and intent do not exist” (Hernandez & Roberts, 2018, p. 6). Therefore, technology can be converted by a person who has the knowledge and skill convert the technology and knowledge to use technology to develop life. Financial Literacy (FL) has been expanded to include a new standard list regarding digital literacy and includes Knowledge and skills in using Digital Financial Systems. Hence, DL has been the focus of researchers. Some people have emphasized the necessity of implementing DFL as a combination of various features of DL and FL.

The goal of 4.4 of quality education (4) of sustainable development goals is substantially to increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship. Under 4.4, the target of 4.4.1 is the Proportion of youth and adults with information and communication technology (ICT) skills, by type of skill. (UN, 2021). So digital literacy is measured under 4.4 of sustainable development goals.

The digital literacy of south Asia countries is very low. As a percentage, it is 24.9%. In Russia, digital literacy is among 25% - 49.9% percentage. In Italy, Japan, and England, digital literacy is more than 50%. It's a good literacy level. That is why those countries are developed countries. When it comes to the overall world, digital literacy is low in most countries. According to Sri Lanka: Status of SDG Indicators and Baseline Data, total digital literacy has increased to 32.3% from 27.1% within the time period of 2015 – 2020 in Sri Lanka. Digital literacy of youth has increased to 66.1% from 56.5% within a time period of 2015 – 2020. It's a higher increase. Digital literacy

of adults has Increased to 23.8% from 19.7% within the time period of 2015 – 2020 in Sri Lan(Sustainable Development Council, 2021)

According to the researcher's knowledge, there is no research to measure digital financial literacy in Sri Lanka. So, there is a dearth of studies related to digital financial literacy. Therefore, the main research problem of the study is whether there is an impact of digital financial literacy on company performance in Sri Lanka.

## Methodology

The philosophy of the research is the positivist approach and the approach of this research is deductive. This research is a cross-sectional study and data collected using questionnaire survey. The sample of this research is 383 Small and Medium Enterprises (SME) in Colombo District using convenience sampling method. The Operationalization of variables is illustrated in Table 01.

**Table 01. Operationalization**

Variables	Measures	Questions	Reference
Digital financial literacy (DFL)	1. Access 2. Mobile 3. Mobile Money 4. Social Media	32	Lyons & Kass-Hanna, (2021)
Business performance(BP)	Sales Growth	1	Aliyu, Maimuna Shika, (2017)

The main hypothesis of the study is as follows.

H<sub>1</sub>: There is a positive relationship between digital financial literacy and business performance.

The descriptive analysis measures the level of digital financial literacy, and the hypothesized relationship is analysed using partial least squares modelling techniques after ensuring reliability and validity of the questionnaire using SMART PLS 3.9 software.

## Findings

Descriptive analysis found that the average level of digital financial literacy and the dimensions in Colombo district SMEs. Next, according to the partial least squares modelling technique initially measurement model is analysed using composite reliability, convergent validity and discriminant validity and ensured reliability and validity of the questionnaire.

**Table 02: Structural Model**

Relationship	Std.beta	T-value	P	Decision	R <sup>2</sup>	Q <sup>2</sup>	F <sup>2</sup>
H <sub>1</sub> DFL > BP	0.513	12.623	0.000	Supported	0.263	0.255	0.356

Secondly, Structural model analysed using bootstrapping procedure and found that there is a positive relationship between business financial literacy and business performance and support to the hypothesis. Explanatory power of the model is substantial indicates that 26.3% is change in business performance can be explained by digital financial literacy (Cohen, 1988). F Square value is 0.356 indicates the larger effect size (Cohen, 1988), and Q Square value greater than 0 indicates higher predictive relevance.

## Conclusion

According to the findings of this study, there is a relationship between DFL and business performance. It was found that owners of small businesses in Sri Lanka have an average knowledge of digital financial literacy and they use that knowledge to increase their business performance.

Nowadays, Digital financial literacy is very important to small businesses in Sri Lanka. The covid pandemic is not finished yet and Sri Lanka is facing to big economic crisis specifically fuel crisis in these days. In this situation digital financial literacy is very important for the sustainability of SMEs in Sri Lanka. Therefore, policy makers including Chamber of Commerce, National Chamber of Commerce, International Chamber of Commerce, etc. can organize workshops for SMEs owners to improve their knowledge of digital financial literacy. In addition, financial institutions can provide financial aids to improve digitalization of SMEs. This study results can be incorporated by SMEs results in help to increase Gross Domestic Product in Sri Lanka through increase in performance and introduction of novelties. In addition, this study will help to achieve SDG 4 in Sri Lanka.

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## **Impact of the financial literacy and household indebtedness: evidence from households in Gampaha district**

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### **Introduction**

Financial literacy concerns are currently being addressed globally, and in light of this, it is important to determine how financial literacy affects household indebtedness among the public. According to Remund (2010), financial literacy is the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through appropriate, short-term decision-making and sound, long-range financial planning, while mindful of life events and changing economic conditions. Three fundamental elements of financial literacy have been compiled by the Organization for Economic Co-operation and Development (OECD) – financial behavior, financial attitude, and financial knowledge.

Past researchers have identified that Financial Literacy has important consequences for debt-related decisions. In 2007, Lusardi and Mitchell have found evidence that less literate consumers tend to transact in high-cost manners, incurring higher fees and using high-cost borrowing (Lusardi and Mitchell, 2007). Researchers concluded that those individuals also tend to have higher debt weight and a higher probability of credit default due to their lack of Financial Literacy. Gathergood and Disney studied the behavior of UK households to identify the relationship between Finance Literacy and consumer credit portfolios and found that consumers with poor Financial Literacy hold high-cost credit products compared to consumers with higher literacy (Gathergood and Disney, 2011). Lasantha and Pathirawasam have found that lower Financial Literacy may imply that individuals are susceptible to higher credit-related risks (Lasantha and Pathirawasam, 2015). They concluded that low Financial Literacy has led to a high level of indebtedness and people have a tendency of making risky investments such as in pyramid schemes in Sri Lanka. This happens due to the diffusion of dishonest or illegal organizations which are working outside of the legal framework in Sri Lanka. They only focus on short-term needs and do not understand the long-term consequences of their decisions.

The Standard & Poor's Ratings Services Global Financial Literacy Survey (2014), which is the world's largest, most comprehensive global measurement of financial literacy, Sri Lanka has a higher Financial Literacy rate compared to its South Asian peers. Sri Lanka received a financial literacy score of 67 and was rated 9 out of 17 markets in the Asia Pacific region according to the MasterCard Index of Financial Literacy (MasterCard, 2016). This is not a surprising factor since Sri Lanka has one of the highest adult print literacy rates in the region.

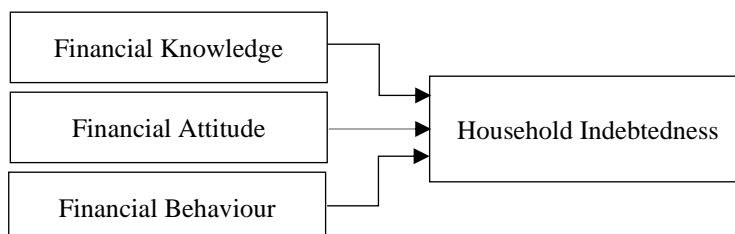
The Central Bank of Sri Lanka's data, on the other hand, shows that over time, household debt in Sri Lanka rapidly approached unsustainable levels (CBSL, 2019). According to the CEIC (2020), household debt reached an all-time high of 10.9 USD billion in Dec 2020. When people face financial problems, their immediate reaction is to look for more money. They believe that the solution to the problem that they are facing today is to go after more money, but they do not understand the root cause of their problem is their lower financial literacy. Therefore, such decisions will drag them deeper into financial stress (Abey Suriya, 2018). Therefore, there is an unusual relationship between the level of Financial Literacy and household indebtedness in Sri Lanka since there's no decrement in household indebtedness though it has higher Financial Literacy. Another perspective holds that past researchers have observed, financially literate households are more likely to co-hold liquid savings and revolving consumer credit, suggesting that the co-holding might arise as a result of rational financial behavior. Consequently, this study will focus on elaborating on the existing relationship between Financial Literacy and household indebtedness to find out solutions to this underpinning question.

## Methodology

This research is designed on realism philosophy and deductive research approach to find out the relationship between the level of Financial Literacy and Household Indebtedness in Sri Lanka. According to the Department of Census and Statistics, there are 1 295 316.15 indebted households in Gampaha District as of 2016. For this study, the data were collected from the respondents selected from J-Ela, Negombo, Kadana, Katunayake, and Minuwangoda DS divisions in the Gampaha District. A total of 483 indebted households were selected as the sample, and the necessary data was collected on Financial Literacy and Household Indebtedness.

Financial Literacy is considered to be the dependent variable, while the independent variable is Household Indebtedness. Structured and pre-tested questionnaires were used to collect the data. The SPSS software was used to statistically analyze the gathered data. Researchers have used correlation coefficient and regression analysis to analyze and interpret the relationship between financial literacy and household indebtedness.

Based on the assumed impact of independent variables on household indebtedness, the following conceptual framework was developed.



**Figure 01. Conceptual Framework**

Three hypotheses were developed to investigate the impact of financial literacy on household debt based on the conceptual model.

H<sub>1</sub>: There is a significant negative relationship between Financial Knowledge and Household Indebtedness in Sri Lanka.

H<sub>2</sub>: There is a significant negative relationship between Financial Attitude and Household Indebtedness in Sri Lanka

H<sub>3</sub>: There is a significant negative relationship between Financial Behavior and Household Indebtedness in Sri Lanka

## Data Analysis

Reliability analysis was used to measure the internal consistency of the items which were used to measure respective variables.

**Table 1. The Cronbach's Alpha Value**

	Alpha Cronbach's	N of Items
Financial knowledge	.776	6
Financial Behavior	.700	8
Financial Attitude	.711	8
Household Indebtedness	.651	2

KMO statistics were used to measure the sampling adequacy. As per the results in Table 02, the KMO statistic is 0.830 (above 0.5), which indicates that the selected sample size is sufficient to continue the analysis.

**Table 2. Kaiser-Meyer-Olkin (KMO) and Bartlett's Test**

KMO Measure of Sampling Adequacy.		.830
	Approx. Chi-Square	3051.911
Bartlett's Test of Sphericity	df	276
	Sig.	.000

## Correlation Analysis

Researchers used Pearson Correlation Analysis to measure the relationship between dependent and independent variables. The findings indicate that the correlation between household indebtedness and financial literacy is statistical significance at the 0.01 level.

**Table 3. Correlations Analysis**

Independent Variable	Dependent Variable	P- Value
Financial knowledge	-.022	0.000
Financial Behavior	-.021	0.000
Financial attitude	-.036	0.000

Significant negative relationships were found between financial knowledge ( $r = -0.020$ ,  $p < 0.01$ ), financial behavior ( $r = -0.021$ ,  $p < 0.01$ ), financial attitude ( $r = -0.036$ ,  $p < 0.01$ ), and household indebtedness. These findings support all three hypotheses of this study.

### ***Regression Analysis***

Regression analysis results indicate that 60.2% of the variations in household debt were predicted from independent variables ( $R^2 = 0.602$ ). The independence of the observations has been satisfied because the Durbin-Watson value was 1.746.

**Table 4. Regression Statistics**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.416	0.425		4.295	<.001
	Financial Knowledge	-.655	0.202	-.030	-.544	.586
	Financial Behavior	-.213	.597	-.021	-.357	.721
	Financial Attitude	-.316	.618	-.029	-.511	.610

The unstandardized coefficients that each one unit increase in financial knowledge, financial behavior, and financial attitude decrease in household indebtedness by 0.655 times, 0.213 times, and 0.316 times respectively.

### **Discussion and Conclusion**

The amount of "financial literacy"—or what Annamaria Lusard (2009) refers to as "debt literacy"—in the context of household debt in Gampaha has been studied in this article. A significant regular survey of the debt position of a representative sample of working-age households was supplemented with specialized questions on numerical aptitude and other background traits.

The findings draw attention to causes for worry. Although it appears that most people have some very basic financial knowledge, a sizable section of the population in every nation lacks comprehension of other, more common financial concepts like compound interest and diversification. Additionally, there is some evidence that some responders are overconfident because they have submitted wrong answers rather than coming clean about their ignorance.

Analysis of the relationship between financial literacy and household indebtedness suggests a negative association. This does not prove causation, and much more research is needed to understand the relationship between these variables. It may be that improved behavior leads to more active participation in financial markets and less borrowing behaviors. The analysis' findings offer data from which the participants

may pinpoint needs and gaps and create the best national policies and plans. This pilot project is meant to pave the way for a regular data gathering, analysis, and reporting program.

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# Geometric fractional Brownian motion model for commodity market simulation: evidence from Indian commodity market

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## Introduction

Generally, commodities are (physical) goods that can be traded on the open market. Instances of agricultural products, metals or Energy like Crude oil, Natural Gas and electricity are examples of commodities. These items are crucial to the global economy, fueled by rising demand and governmental issues like market regulation.

The spot and derivatives markets are places where buyers and sellers can trade commodities. Market players are more likely to have more reasonable expectations regarding future price fluctuations if they know how commodity prices behave. For businesses looking to protect themselves against underlying price risk and those investing in commodities, a thorough grasp of the commodity markets is crucial. Unlike stocks and bonds, investments in commodities cannot generate a consistent stream of cash flows. Commodities are a good inflation hedge since, historically, their prices rise along with inflation. Because commodity returns often have little correlation with those of other asset classes, commodities are advantageous for diversification.

Commodity risk management approaches are more important than ever because of the observed unpredictability of commodity prices. Comprehensive knowledge of commodity price behaviour and advanced modelling of commodity prices are necessary for effective risk management. The expansion of the commodity market also fuels the demand for reliable and efficient risk management techniques.

Managing commodity risk is difficult for both commodity producers and consumers. Producers keep goods in stock since that is how they do business. Consequently, variations in commodity prices have an impact on their operating cash flow. Since consumers are often price-takers, commodity price changes also impact their net cash flow.

This study aims to forecast and hedge the prices of selected commodities using the Geometric Fractional Brownian Motion (GFBM) model. The main objective of this research is to identify the features for forecasting commodity prices in India by implement the GFBM model for predicting the prices of Indian commodity market.

Having good knowledge of Crude oil and Natural Gas moment investors help to take more protective decisions, which leads to reduced risk and increased profitability. Still, the lack of knowledge about future price changes leads to more uncertainty.

There are many systematic models to forecast and hedge prices, which help investors guide future price decisions. The Geometric Brownian Motion (GBM) for price movement prediction and hedges because of the high accuracy of interpreting results. But India's uses of the GBM model and Binomial Pricing Model are not widely observable; this study's solution focuses on how the Geometric Brownian Motion (GFBM) model is used to predict and hedge commodity prices using these commodities futures' daily prices of Multi Commodity Exchange of India Ltd.(MCX) in India.

Several types of research are done related to the Geometric Brownian motion model (GBM) used for commodity market simulations and stock price simulations. This GBM model predicts future prices according to the previous data. One of the famous studies (Reddy & Clinton, 2016) that were done to simulate stock price using Geometric Brownian Motion in Australian Companies successfully predicted the future price path. This study was done for several categories such as Energy portfolio, Financials portfolio, Industrial portfolio, metals and mining portfolio, and so on. In this research, three different approaches are used to test the model's validity. Actual results and predicted results are compared according to the correlation, Mean Absolute Percentage Error (MAPE), and Direction prediction accuracy

We can see the results of the Stock price simulation with the GBM model of Australian companies related to the different categories. Short-period predictions are not much accurate for some portfolios, such as Real Estate. But with the extended periods, the proposed model is accurate by more than 50% for all categories. But the major problem with the GBM modelling is that it has some assumptions. GBM is applied while assuming the real stock increments to be mutually independent. But real data consists of dependency. Therefore, this assumption contradicts the practical scenarios. Although the GBM model is proven to be a cheaper and more efficient method in time series modeling, this assumption considerably affects the calculations. Most of the research is done to predict stock price simulations. But some researchers are done to simulate the GBM for the commodity markets such as petroleum products and natural gas, rice and coffee, rubber, gold, and so on. The model for simulating the price of petroleum products and natural gas is used as a formal Bayesian model comparison to assess several Generalized Autoregressive Conditional Heteroscedastic (GARCH) models and stochastic volatility models. According to the research results (Chan & Grant, 2016), stochastic volatility models provide better precision than conventional GARCH models for the different types of petroleum products and natural gases.

Another study suggests a methodology to Forecast Commodity Prices in Vietnam. This study's main goal was to develop an efficient Maximum Likelihood Estimation procedure based on the characteristic function. Then that procedure estimates the parameter of the Heston Cox-Ingersoll-Ross model by applying it to the time series of rice and coffee prices.

Another study (Ibrahim et al., 2016) was conducted to forecast categories' rubber prices. The Geometric Brownian Motion (GBM) model has used the estimate of the



prices of six grades of rubber type SMR such as SMR20, SMR5, SMR10, SMRCV, SMRL, SMRGP, and price centrifuged latex type rubber.

The forecasted price of the Centrifuged latex rubber type showed similar results to the actual price. Since these commodities show the mean-reversion distribution, additional features will insert into modelling the rubber prices using a mean-reversion GBM process as the future work of this study.

Another study (Hamdan et al., 2020) was done to predict gold prices with the Geometric Brownian Motion (GBM) process. The predicted prices come up with a low Mean Absolute Percentage Error (MAPE) value for up to one month. In other words, the GBM model may produce an accurate forecast of gold prices for one month. When the number of observations increases to more than a month, the MAPE value will increase and then indicate inaccurate forecasting prices. Therefore, investors and traders can use GBM to produce accurate gold price forecasts for a short period (for months).

## **Methodology**

There are two types of study designs to choose from. They are both quantitative and qualitative. Using a quantitative method, this study investigated the applicability of the Geometric Brownian Motion Model in the Indian futures market to simulate and hedge daily natural gas price volatility. India has been a beneficiary of excess global liquidity, higher metal and commodity prices, and strong industrial demand in the past couple of years. This research study primarily uses easily accessible secondary data from the Multi Commodity Exchange, including everyday prices for natural gas (MCX). The population in this research study has considered daily crude oil, Natural Gas & Gold futures' prices from 2017 to 2021(5 years) in the Indian derivatives market (MCX). Only agricultural commodities are listed on National Commodity & Derivatives Exchange (NCDEX). Therefore, NCDEX has no impact on the population. There are five different segments under MCX: From 2003 through 2022, AGRICULTURAL COMMODITIES, BASE METAL, BULLION, ENERGY, and INDEX futures were traded. Natural gas daily prices are accessible from 2003 until 2022 under the Energy category.

A sample is a selected subset of individuals through a more extensive set. In this research study, the Geometric Brownian Motion Model's sample size is daily futures prices in MCX from 2003 to 2021 (5 years).

The following methods of data presentation have been used in this research study. Microsoft Excel / tabular method when using Microsoft Excel, data is classified concerning time or some other variables. MATLAB software is used to simulate the GFBM model.

Then after the data processing, we develop the simulation model and predict the future prices. Then we determine the accuracy of this model using MAPE. In this model, the MAPE value is very low. Therefore, we can conclude that this model can make a very accurate price prediction. This research study expects to support investors and other

stakeholders in making decisions about these commodities, such as natural gas. Investors can reduce risk because a lack of knowledge about future price changes leads to more uncertainty.

## Findings

When comparing the MAPE between simulation types, a simulation done using daily price data points has better accuracy than simulations that used monthly price data points. When simulating the price with GFBM, it is better to simulate with more data points. Because drift is calculated according to the significant number of data points. Then the simulated price also tries to reach the actual future price. The below table clearly shows the importance of more data points when simulating the price with GFBM.

**Table-1: MAPE values of the GFBM models for Natural Gas**

<b>Simulation Type</b>	<b>MAPE</b>
Using 3 Years of Data	0.032019777
Using 5 Years of Data	0.028952325
Using 10 Years of Data	0.027076785
Using 3 Years of Data (Monthly Average)	0.127155

## Conclusion

The GFBM model is used to predict the natural gas prices that belong to the Indian Commodity Market. The above table shows the MAPE value for all four simulations done for the natural gas. The highest error is dedicated to the simulation by the monthly average of 3 years. The best model is implemented with 10 years of daily price data. In conclusion, the accuracy will be increased if the number of data inputs is high. The drift shows the change in the average value of a random process. When there is an enormous number of data points, drift is created with the participation of more data points.

Simulations of natural gas are done using 5 years of daily prices, and Mean absolute percentage error (MAPE) is 0.007293. These models also reached outstanding accuracy for price prediction. Even though GBM and GFBM are developed to predict stock prices, the GFBM model is preferable for the commodity price predictions that have the Brownian motion in the price variation. Price prediction is one of the most valuable concepts for an organization to make decisions and adjust its risk management. Also, this helps the investors, employees, customers and all other stakeholders to make their decisions better. As the future work of the research, simulation will try with different hurst parameter estimations such as Higuchi, Absolute Moment and Aggregated variance method. As well as, year separation method also will be implemented because it can be gives better results for the simulation.

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## *Corporate Finance*

## **The impact of financing decision on shareholder value creation: empirical evidence from listed food beverage and tobacco sector and consumer service sector companies in Sri Lanka**

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### **Introduction**

A financing decision refers to the decision that firms require to take regarding what amount of proportion of equity and debt capital to have in their capital structure. These decisions play a very crucial role in financing its assets, investment decisions, and shareholder value creation (Mehta, 2022). Nagalakshmi, (2015) points out that a financing decision entails selecting an appropriate financing mix by way of a combination of debt and equity in a company's capital structure. Companies can be financed entirely by equity or by debt or a combination of both. The debt and equity mix in a company is referred to as capital structure. Financing decision, Agbai, (2013) asserts that a firm financing policy may be to choose from alternative sources, which may be internal or external. Carlos *et al*, (2015) discuss that sound financing decisions enable businesses to create economic value. Conversely, unsound financing decisions destroy value which threatens survival and the continuity of an enterprise

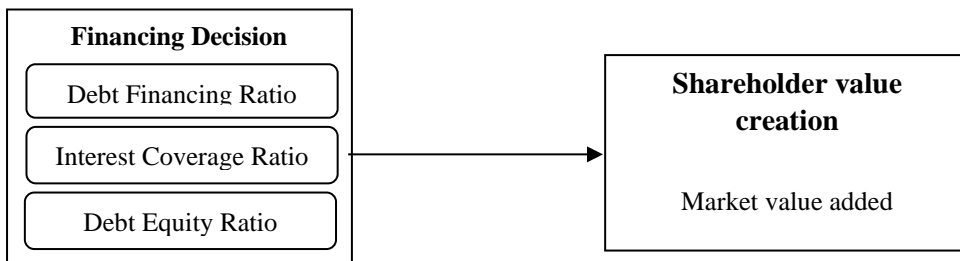
Furthermore, considering the financing decision can be divided into several parts. This study has examined to identify how financial leverage is related to the financing decision. According to the financing decision, the company has expected to decide how the companies need to take what proportion of equity and debt capital to have its capital structure. El-Sayed Ebaid, (2009) suggested that generally efficiency of the foremost hotels in India is checked by the role of financing decisions show that financial leverage works only for a few companies. Panday (2010) examined a company that can be financed its investments by debt and equity, and a company may also use preference shares. The ratio of the fixed charge sources of a fund such as debt and preference shares to owners' equity in the capital structure is described as financial leverage. The study mainly focuses to identify the impact of financial leverage on shareholder value creation. There were several studies on shareholder value creation and financing decisions have been carried out all over the world including in Sri Lanka. Pandya, (2016) study analyzed the impact of financial leverage on market value and added 197 companies classified that are listed on the Bombay Stock Exchange. According to the researcher has considered debt equity ratio, debt ratio and interest coverage ratio as independent variable and MVA as dependent variable. The study has showed interest coverage ratio is the most significant in depend variable to impact on market value added. And also debt equity ratio and debt ratio are considered to be statistically significant related to the market value added of sample companies in India. In addition to that, very few studies on financial leverage and shareholder value creation related to the Sri Lankan context consider the other

researchers' studies that have investigated the listed companies. Such as Bei and Wijewardana (2012), Jahfer (2006) and Kinchchili et al 2014. Some of the researchers gathered empirical evidence from one sector (Kinchchili et al 2014 examined the impact of leverage on shareholder's return. The study based on selected listed manufacturing companies in Sri Lanka). Some of the researchers finally depend on there was a different kind of impact of financing decisions on shareholder value creation. The main objective is to identify the relationship and impact between financial leverage and shareholder value creation. (Muthoni (2019) investigated financing decisions and shareholder value creation and Influence of the financial leverage and on shareholder's return which was investigated by Mehta (2014))

The paper purposely analysis the financial leverage impact on market value added. The research findings accommodated managers in assessing how different financing decisions impact the value of the firm in general and specifically on the creation of shareholder value. It will be helped to act as a guide in planning for the ideal combination of a financial decision as well as identifying and selecting strategies that create the highest value for the shareholder. The study findings are provided insight to find providers such as the consumer service sector and food, beverage, and tobacco sector in understanding the financial behavior of the listed companies in Sri Lanka. This research is helped to identify how different sectors are activated to impact financial leverage on shareholder value creation.

## Methodology

The researcher has selected only two sectors from the listed companies in Colombo exchange market. The reason behind the selected the two sectors because that sectors with very high debt ratio. Food beverage and tobacco sector and Consumer service sector have been selected when looking at the high debt ratio compare with the other sectors. The Population comprises 45 listed companies in the Food Beverage & Tobacco sector and 35 listed companies in the Consumer service sector of CSE as of 21 May 2021 and researcher selected 38 (based on the debt to equity ratio) companies from Food Beverage and Tobacco sector and 31 (based on the debt to ratio) companies from Consumer Service Sector as a sample, using a simple random sampling technique. Data was collected for the recent 5 years from 2016/17 to 2020/21. The study focuses on secondary data collected through the published annual reports of the sample. With the help of reviewing existing studies and theories, the following model was developed to carry out the research.



**Figure 2. Conceptual Framework**

This study employed descriptive statistics, correlation analysis, and regression to analyze the data.

The following hypotheses were formulated for the study.

H1 - There is a positive impact on the Financing decision on Shareholder Value Creation

H2 - There is a positive relationship between financing decisions on shareholder value creation.

H1a - There is a significant impact of Debt Equity Ratio on Shareholder Value Creation

H1b- There is a significant impact of Interest Coverage Ratio on Shareholder Value Creation

H1c- There is a significant impact of Debt Financing Ratio on Shareholder Value Creation

To test the hypotheses the following multiple linear regression model is developed.

$$MVA = \beta_0 + \beta_1 IC + \beta_2 DE + \beta_3 DA + \varepsilon$$

Where, MVA = Market Value Added, IC = Interest Coverage Ratio, DE = Debt to Equity Ratio, DA = Debt to Assets Ratio

## Findings

The main objective of the study was to identify the impact of financing decision on shareholder value creation. Under the financing decision study consider about the financial leverage. As per the independent variables study is selected interest coverage time, debt to equity and debt to assets ratio. The study used to analysis the panel data and use the regression model to reveal impact on financing decision on shareholder value creation. As per the result there is a positive impact of financing decision on shareholder value creation under the both of sectors. But both of sectors not statistically significant.

**Table 1. Correlation Analysis for Food Beverage and Tobacco sector**

Variable	MVA	IC	DE	DA
MVA	1.000			
IC	-0.022 0.767	1.000		
DE	0.315** 0.000	-0.089 0.111	1.000	
DA	0.130 0.073	-0.061 0.166	0.262** 0.000	1.000

\*\* Correlation significant at the 0.05 level

Results showed that both debts to equity and debt to assets presented a positive, weak relationship with market value added, and the one variable significantly correlated with market value added at a 5% significant level. The interest coverage ratio showed no any relationship with the market value added while interest coverage and debt to assets have weak positive relationship is significant at 0.01 level.

**Table 2. Correlation Analysis for Consumer Service Sector**

Variable	MVA	IC	DE	DA
MVA	1.000			
IC	0.025 0.752	1.000		
DE	-0.081 0.319	-0.037 0.649	1.000	
DA	0.050 0.536	-0.032 0.696	0.919** 0.000	1.000

\*\* Correlation significant at the 0.05 level

As per the table, 2 results showed that interest coverage and debt to assets ratio have not presented relationship with market value added, and the one variable is weak and positively related to the market value added. The study met all four assumptions of regression and the results show in the following table.

**Table 3. Regression Results for Food Beverage and Tobacco Sector**

MVA	Coefficient	Standard error	t	p>t
IC	1.5808	7.6008	0.207365	0.8360
DE	1.4810	3.5409	4.189085	0.0000
DA	2.8909	4.0609	0.712930	0.4768
Cons	2.4909	2.5209	0.9867	0.3250

The results indicate that debt to equity has a significant positive impact while other variables are insignificant at a 95% confidence level. But the R Squared 0.1020 indicates that financial performance and condition explained 10.20% variations of the market value added. Further adjusted R-squared indicates that there is an 8.7% impact of interest coverage, debt to equity and debt to assets on market value added.

**Table 4. Regression Results for Consumer Service Sector**

MVA	Coefficient	Standard error	t	p>t
IC	6888.314	4.3408	3.282286	0.0001
DE	-3.8409	25461.81	0.270535	0.7871
DA	4.5009	9.2308	-4.161139	0.0001
Cons	1.4209	1.1009	4.084167	0.0001

The result indicates that interest coverage and debt to assets have a significant positive impact while the variable is insignificant at the 95% confidence level. But the R



squared 0.1057 indicates that financial performance and condition explained a 10.57% variation of the market value added. Further adjusted R-squared indicates that there is an 8.8% impact of interest coverage, debt to equity and debt to assets on market value added.

**Table 5. Regression model summary**

	Consumer Service	Food beverage
Number of observation	155	190
F- statistics	5.953984	7.043541
Problem> f	0.000	0.000
R- squared	0.105778	0.102016
Adjusted R-squared	0.088012	0.087396

### ***Hypotheses testing***

H1 - There is a positive relationship between financing decisions on shareholder value creation. (As per the regression model summary Table 4)

Food Beverage Tobacco sector       $\longrightarrow$       Accepted

Consumer Service sector       $\longrightarrow$       Accepted

H2 - There is a positive relationship between financing decisions on shareholder value creation.

Both sectors have a negative and positive relationship between the financing decision and shareholder value creation

H1a - There is a significant impact of Debt Equity Ratio on Shareholder Value Creation

Food Beverage Tobacco sector       $\longrightarrow$       Accepted

H1b- There is a significant impact of Interest Coverage Ratio on Shareholder Value Creation

Consumer Service sector       $\longrightarrow$       Accepted

H1c- There is a significant impact of Debt Assets Ratio on Shareholder Value Creation

Consumer Service sector       $\longrightarrow$       Accepted

### **Conclusion**

The study examined the relationship between shareholders' wealth and financing decision of the food, beverage and tobacco sector and Consumer service sector in Sri Lanka. According to the findings of analysis the result of the study was revealed that there is a positive impact of financing decision on shareholder value creation when consider about the food, beverage tobacco and consumer service sectors, therefore hypothesis H1 is accepted both of sectors. It was found that analyzed, all three

measures of financial leverage namely; debt equity ratio, interest cover and debt to assets ratio were differently related to market value added. When consider about the food, beverage and tobacco sector there is a significant impact of DE on MVA. In the consumer service sector has been represented insignificant impact of DE on MVA. The empirical findings indicated both positive and negative relationships between independent and dependent variables. Most of the empirical findings of the correlation analysis were consistent with the results of the study while a few variables were not. Associated limitations were, that researchers only consider the influence of financial leverage over the market value added. The results of this study draw significant policy implications at micro and macroeconomic levels. Decisions related to choice of appropriate sources of fund are crucial since they have impact on continuous value creation and maintenance. To enhance and maintain value creation, management should aim at minimizing weighted average cost of capital, analyses inherent risks associated with various capital and investment projects and aim at maintaining firm's credibility. This will ensure continuous supply of both short term and long term finances and boost investors' confidence in a firms going concern. The research only examined five years' data. The period could potentially be too short for further analysis and therefore capable of yielding biased results.

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# **The effect of cash flow management on the financial performance of non-financial companies listed in Colombo Stock Exchange**

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## **Introduction**

Cash flow management is an operational, tactical, and strategic activity in organizational management platforms. Many studies found that cash flow management is an essential function for corporate financial management (Kamel Al Zobi & Hel Al-Dhaimesh, 2021). It has become a crucial element of many firms' operational strategies (Kroes & Manikas, 2014). Adelegan (2003) has implied that cash flows are a contributing factor in firm performance. Cash flow values are also important to examine the length of cash in operations management, and the length of investments, and also to identify the cash in financing activities that impact the firm's profitability (Aris, et al., 2019). By conducting a comprehensive analysis of cash flow management, the management team gets the ability to plan the future sources of cash flows which also implies potential risk and returns of the company investments. Thus, it is very important to identify the effect of cash flow management on the financial performance of Listed Non-financial Companies in the Colombo Stock Exchange.

This study aims to examine the effect of cash flow on the financial performance of listed non-financial companies in the Colombo Stock Exchange in Sri Lanka. Towards achieving this aim, the author has developed three objectives; particularly, to identify the effect of operating cash flow on a firm's financial performance, to identify the effect of investing cash flow on a firm's financial performance, and to identify the effect of financing cash flow on a firm's financial performance.

The previous studies provide a strong basis for the researcher and after considering many international studies, several academic journals and papers, the findings have contrasted the significant effect of cash flow management on a firm's financial performance (Musah & Kong, 2019; Ikechukwu, et al., 2015; Wanja 2011). The Keynesian theory of money, free cash flow theory, and agency theory describe how cash flow management affects the firm's financial performance in various ways.

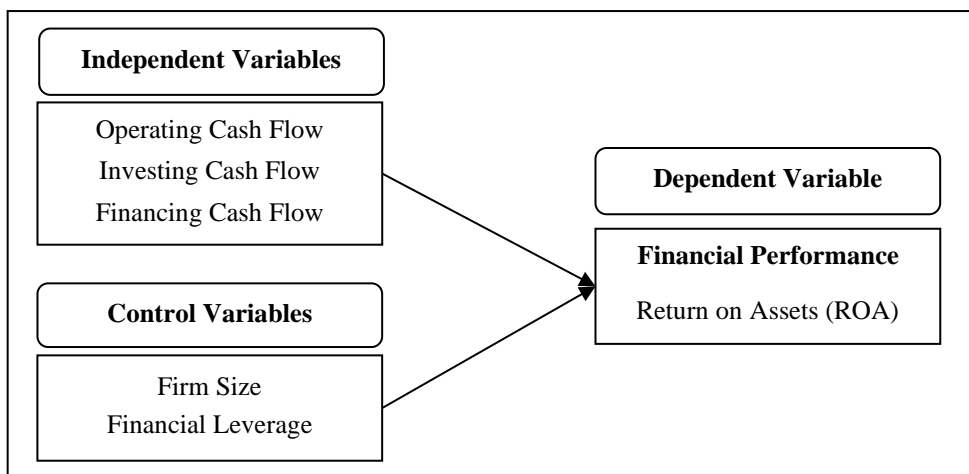
When referring to Sri Lanka basis studies, it contrasts those studies related to examining the connection between cash flow management and financial performance are lacking. Therefore, the author has chosen to examine the effect of cash flow management on the financial performance of non-financial companies listed in the Colombo Stock Exchange to fulfil the research gap.

## Methodology

To achieve the research objectives, the author has planned to conduct this research scientifically. Therefore, the author follows Saunders, Lewis, and Thornhill's research onion model in 2012. According to this model, the author has chosen positivism philosophy, quantitative research approach, and archival research strategy, and has conducted this study based on the explanatory purpose. The cross-sectional time horizon is used in this research.

The author has used secondary data for the period of 5 financial years from 2017 to 2021. A sample of 31 companies from the population of 222 non-financial companies listed in the Colombo Stock Exchange was picked for the analysis. In this study, the author has used operating cash flow, financing cash flow, investing cash flow, firm size, and financial leverage as independent variables, and the financial performance that is measured by ROA as the dependent variable. Depending on the collected and arranged data, the researcher has conducted the hypotheses testing.

The conceptualization of the present study is illustrated as follows.



**Figure 1. Conceptual Framework**

This study uses data analysis techniques such as descriptive statistics, correlation analysis and multiple regression analysis to analyze the sample and examine the data. In this research data is analyzed by using E-Views 10 to test the relationship among the variables. Furthermore, the regression model below was tested.

$$ROA_{it} = \beta_0 + \beta_1 OCF_{it} + \beta_2 ICF_{it} + \beta_3 FCF_{it} + \beta_4 FS_{it} + \beta_5 FL_{it} + \varepsilon$$

Where,

ROA represents the return on assets of the firm.  $i$  represents the cross-sectional data while  $t$  represents the period (2017-2021).  $\beta_0$  is the intercept or constant term while  $\beta_1, \beta_2, \beta_3, \beta_4,$  and  $\beta_5$  are the estimated coefficients for the independent and control

variables. OCF is the operating cash flow, ICF is the investing cash flow, FCF the is financing cash flow, FS is the firm size, FL is the firm leverage, and  $\epsilon$  is the error term.

## Findings

The main purpose of doing data analysis is to analyze and discuss the data collected in relation to the research objective. Accordingly, 155 observations from 31 non-financial companies listed in the Colombo Stok Exchange for the period 2017-2021 were used for this analysis, and the hypotheses were examined with the help of a multiple regression model.

The correlational analysis was performed to confirm the existence and relationship between independent, control variables and dependent variables. In this study, the researcher has used correlation analysis to measure the relationship between the independent variables (OCF, ICF, FCF), control variables (FS, FL), and the dependent variable (ROA).

**Table 1: Correlation Analysis**

	OCF	FCF	ICF	FS	FL	ROA
OCF	1.000000					
FCF	0.243269	1.000000				
ICF	0.542915	0.430446	1.000000			
FS	0.203413	0.476900	0.592140	1.000000		
FL	-0.005169	0.006692	-0.011138	-0.041508	1.000000	
ROA	0.137154	0.240235	0.202653	0.159344	-0.040211	1.000000

*Source: Researcher compiled, 2022*

Considering the calculated correlation values as above, the correlation between the operating cash flow and the ROA indicates a weak positive correlation. The financing cash flow and ROA reported a weak positive correlation, that increasing the average financing cash flow, increases the return of assets of companies. Further, the investing cash flow and the return on assets reflect a weak positive correlation. In this way, based on the findings, it is evident that an increase in the investing cash flow leads to an increase in return on assets.

**Table 2: Regression Analysis**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.357451	0.026823	13.32613	0.0000
OCF	9.48E-07	2.51E-06	0.377466	0.7064
FCF	7.46E-06	3.66E-06	2.039047	0.0432
ICF	3.29E-06	3.80E-06	0.864963	0.3884
FL	-0.004679	0.009216	-0.507716	0.6124
FS	2.60E-09	3.34E-07	0.007801	0.9938

*Source: Researcher compiled, 2022*

The author has made hypotheses by referring to the literature review and these relationships were tested by using regression analysis. Since this study was entirely based on panel data, the researcher used the panel least square regression method to monitor the behavior of the statistical units over time.

The panel regression output obtained with respect to the above can be expressed as an equation as follows.

$$ROA_{it} = 0.357451 + 9.48 - 07OCF_{it} + 7.46E - 06ICF_{it} + 3.29E - 06FCF_{it} - 0.004679FL_{it} + 2.60E - 09FS_{it} + \varepsilon$$

Accordingly, the results of the analysis reflected that there is an insignificant positive effect of operational cash flow, investing cash flow, and firm size on a firm's financial performance. Further, it indicates an insignificant negative effect of financial leverage on a firm's financial performance. Finally, the analysis indicates a significant positive effect of financing cash flow on a firm's financial performance of the selected firms under consideration. Moreover, the analysis confirmed that the firm size was positively correlated with the financial performance of non-financial firms.

## Conclusion

This study mainly focused on examining the effects of cash flow management on the firm financial performance. The author was able to identify a significant gap in the Sri Lankan business management context since the lack of studies available to identify the relationship between cash flow and corporate financial performance. After following the systematical, scientific approach of research methodology, the author has conducted a secondary data analysis by using the e-views statistical tool to analyze the financial data of the annual reports in selected companies.

The author has taken operating cash flow, financing cash flow, investing cash flow, firm size, and financial leverage as independent variables, and the dependent variable was taken as financial performance. The financial performance is measured by calculating the ROA of the financial data. The author has analyzed by using 155 observations from 31 non-financial companies listed in the Colombo Stock Exchange for the period 2017-2021 and the hypotheses were examined by using the help of a multiple regression model.

The regression analysis results reflected that there is an insignificant positive effect of operational cash flow, investing cash flow, and firm size towards the firm's financial performance. Further, it indicates an insignificant negative effect of financial leverage on a firm's financial performance. Finally, the results contrasted a significant positive effect of the financing cash flow on the firm's financial performance. In conclusion, the study reflects that the company management should pay more attention to financing cash flow management to have a good financial performance.

Due to the limited and unique sample available for the study, the results may not be generalized beyond the specific population from which the sample was taken. And

also, since this study focuses on different sectors and companies, the analyzed data may be varied due to the firm size, firm age, international investments, profit margins, and many other activities. The author recommends that future research investigators identify the impact of unexpected events such as Covid 19 Pandemic, economic crisis, etc. on a firm's cash flow management. By conducting this study, the author believes that the findings will be beneficial for many parties in the future in various aspects and this will help to fill the research gap in Sri Lanka about the effect of cash flow management on firm financial performance.

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## **Cash conversion cycle and aggregate stock returns: a South Asian perspective**

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### **Introduction**

Working capital management (WCM) primarily affects firms' profitability risk, market value, and financial decisions. The Cash Conversion Cycle (CCC) has been identified as a critical component of an effective WCM strategy, regarded as the popular key metric of working capital management that Richards & Laughlin (2012) introduced. The cash conversion cycle (CCC) can be calculated as  $(\text{Average accounts receivables/sales}) \times 365 + (\text{Average inventories/cost of goods sold}) \times 365 - (\text{Average accounts payable / cost of goods sold}) \times 365$ . So the inventory conversion period, receivables conversion period, and payable conversion period are components of CCC.

Evaluating the changes in the cash conversion cycle and how that impacts stock return is a significant area that affects a firm's overall performance. Also, it impacts shareholders' returns, but there is no commitment to examining such areas. So there is a lack of interest in this area, although it is a very crucial area. It is then considered that the present researchers are interested in studying the relationship between the cash conversion cycle and aggregate stock returns. Further, the researcher selected three South Asian countries, Sri Lanka, India, and Pakistan, as well as non-financial companies by selecting 240 sample listed companies for this research study and using five years of cross-sectional panel data from 2017 to 2021.

So, the research problem of this study was highlighted by the researchers as "How well the CCC influences aggregate stock returns in South Asian non-financial companies". By using such problems, objectives were identified as follows,

1. To identify the extent inventory conversion period impacts stock market returns.
2. To identify the extent receivable conversion period impacts the stock market returns.
3. To identify the extent payable conversion period impacts the stock market returns.
4. To identify the extent aggregate cash conversion cycle impacts the stock market returns.
5. To provide some suggestions to keep suitable CCC according to stock returns.

Richards & Laughlin (2012) introduced the concept of the cash conversion cycle. Wang (2019) examined CCC and stock returns and discovered a significant inverse relationship between a firm's CCC and its expected return. Further, he revealed a critical inverse relationship between a firm's CCC and expected return. Lin & Lin



(2021) investigated the predictive ability of the aggregate CCC to forecast future aggregate market return using predictive regression models, standard linear regression, bivariate predictive regression, and OLS estimation. According to the findings, total CCC is a highly reliable indicator of future total market returns. In-sample regression analysis revealed that CCC has superior predictive power to well-known return predictors.

## **Methodology**

The researcher considered the non-financial companies listed in South Asian countries as Sri Lanka, India and Pakistan by selecting 80 companies in each country. Therefore, 240 non-financial companies listed were selected from Colombo Stock Exchange (CSE), National Stock Exchange (NSE), and Pakistan Stock Exchange (PSX), with data spanning five years from 2017 to 2021. In the present research study, aggregate stock returns are used as a dependent variable, and the CCC and its components, ICP, RCP and PCP, are the independent variable. This study is a quantitative research study with an explanatory purpose. Further, it is considered a deductive approach and quantitative secondary data because data collection consists of numeric data from different sources. Due to the purpose of achieving the objectives and hypotheses of this research study, data have been gathered from secondary sources, mainly from financial reports of the 240 companies, which CSE, NSE, and PSX published on their websites.

According to the positivism philosophy, the researchers collected quantitative data, which were analyzed using descriptive and inferential statistics such as hypothesis testing. Those collected data have been analyzed with the support of tables, simple mathematical ratios, descriptive statistical techniques and correlation coefficient analysis, regression analysis, ANOVA (F and t statistics), and R square with the support of E-views. Under the regression analysis, R-square is used to identify the extent stock returns are explained by the ICP, RCP, PCP, and CCC. The ANOVA table and t-statistic were used to measure the strength of the relationship between the dependent and independent variables. In f statistic, all independent variables were considered simultaneously and tested statistical significance with the dependent variable (stock return). Coefficient correlation analysis reveals the relationship between each component of CCC and Stock returns when there is a positive or negative impact between them.

## **Findings**

So, the final correlation results with CCC indicated a negative correlation with SR in all countries the researcher sampled. Wang (2019) expressed the same opinion by examining the US market, but he revealed a strong negative correlation between CCC and SR. Even though all are weakly correlated without CSE, CSE companies have a strong correlation between CCC and SR.

Through the development of two research models, research was analyzed OLS regression by using e-views, and the summary was concluded as follows,

Based on the developed model's analysis, R-square was 21%, 10%, and 17% of CSE, NSE, and PSX, respectively highlighted that results revealed that CSE companies' independent variables (ICP, RCP, and PCP) have explained in highest R-square value than others. When analyzing developed model 1 results, ICP and RCP have a negative impact on SR in all countries; generally, the lowest negative ICP, RCP, and positive highest PCP are better for the companies. Considering that -0.013 is the lowest one performed by the NSE companies and the lowest RCP and highest PCP record in CSE companies as -0.138 and 0.157, respectively. All countries have zero probabilities indication that combines the effect of ICP, RCP, and PCP has less than significance level at 5%, so all are at a significant level and considerable. According to model 2 results, negative CCC for all countries complied with the general theory relevant to CCC.

Further, the shorter CCC is better for the companies; NSE and PSX companies perform Shorter CCC. This means when CCC increases by one day, the SR decrease by that small percentage. The probabilities of CCC were near zero, and all were significant. Not only that, but the probabilities of f-static are also close to zero in all countries, revealing that CCC's combined effect on SR is significantly considerable.

## **Conclusion**

Every corporate organization is highly concerned with maintaining and increasing the market value and attracting investors when displaying their stock return for their shareholders. According to the previously stated assertion, CCC is significant to WCM for the company's existence and a critical factor in profitability, and profitability directly affects the shareholder's dividend and share market price. Thus, everything that affects the company's stock returns.

According to the study findings, the ICP, RCP, and CCC negatively and significantly impact SR but are positively related to PCP. Wang (2019) and Lin & Lin (2021) also reviewed the same results. However, those researchers have used the US market only. Further, considering the firm's profitability can positively affect the stock returns, as explained by Aminu and Yusuf's (2015) integration theories. Thereby, CCC negatively and significantly affects profitability, and through such results, we can expect a remarkable stock return. So that such a statement complies with Chang, 2018; Ebben & Johnson, 2011; Jayarathne, 2014; Raheem Anser, 2013; Siraj et al., 2019 and Nobanee et al., 2011 but some researchers such as Jahfer, 2015; Saraswatia & Bernawati, 2020; Sharma & Kumar, 2011 argued with CCC has positively impacted profitability. So, these points can be helpful for future researchers in this research area. The researchers can suggest that managers can create a higher stock return for their shareholders by reducing the number of accounts receivables and inventories to a reasonable minimum and by lengthening the accounts payable as appropriate through improving working capital policy by reducing CCC, which will enhance profitability. So same opinion was suggested by Alan et al. 2014; Deloof, n.d.; Dong & Su, 2010; García-Teruel & Martínez-Solano, 2007; Hirshleifer et al., 2009; Jayarathne, 2014; Kumar Panigrahi, 2013; Raheman & Nasr, 2007.

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## **Does working capital management matter in dividend policy decisions? Comparative evidence from South Asia**

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### **Introduction**

A dividend is a return to shareholders due to money invested in acquiring company shares. Any company seeks to increase shareholder wealth through dividends or capital gains. For this reason, most companies are interested in how much of their earnings or profits should be paid to shareholders and the amount to be retained for further investment. Hence, an optimal dividend decision is essential. This study aims to determine the relationship between working capital management and dividend payments and the effect of working capital management on dividend payments.

Oladipupo & Ibadin (2013) state that the difference between current assets and liabilities is working capital. The working capital of any company is a link that affects liquidity and profitability. A company needs profitability to achieve growth and success. Also, an organization needs liquidity to avoid bankruptcy and liquidation problem. And to achieve growth and sustain the existence of a company, an organization must be profitable. This study questions how firms can achieve these conflicting objectives and whether effective working capital management can lead to higher profitability and a higher dividend payout ratio.

Oladipupo & Ibadin (2013) investigate the relationship between dividends and working capital management. They found working capital management is not a critical factor in the matter of dividend policy by the firms under study.

Alsulayhim (2019) has investigated the relationship between successful working capital management and firms' dividend payouts in the Nairobi securities exchange during the past eight years. The study's findings revealed no statistically significant relationship between working capital management and dividend payout ratio among listed firms in Kenya.

### **Methodology**

The sampling units for this research comprised non-financial firms listed in the Colombo stock exchange in Sri Lanka, the National stock exchange in India -and the Pakistan stock exchange in Pakistan for 2017-2021. A total of 240 firms were sampled. Data were collected from the annual reports of the selected firms.

The study included dividend per share and earnings per share as the dependent variable. At the same time, the Inventory collection period (ICP), Account receivable collection period (ACP), Account payable period (APP) and Cash conversion cycle (CCC) served as the independent variables. In addition, the study included sales growth and leverage as the control variable.

Based on the selected variables, the following models' study follows. Those are stated as follows,

*Model 1*

$$\text{Dividend payout Ratio}(\gamma) = \alpha + \beta_1\text{ICP} + \beta_2\text{ACP} + \beta_3\text{APP} + \varepsilon$$

*Model 2*

$$\text{Dividend payout Ratio}(\gamma) = \alpha + \beta_4\text{CCC} + \varepsilon$$

## **Findings**

Considering all the following research findings and correlation analysis, all working capital management variables had no significant impact on dividend payout. Regression analysis results of all coefficients of model 1 and model 2 were statistically insignificant. As the final analysis results indicate, Sri Lanka has an efficient ICP that significantly impacts dividend payout. And also, Pakistan has an efficient CCC that significantly affects dividend policy. Finally, analysis results indicate that all three countries, such as Sri Lanka, India, and Pakistan, have efficient, other working capital management components that insignificantly impact dividend payout. Finally, based on the analysis result, we can conclude from this study that working capital management is not a critical factor in dividend policy by the firms under investigation. According to previous studies under the literature review, the overall result of this research study complies with the result (Oladipupo & Ibadin, 2013).

According to that, R-square was 1.46%, 1.33%, and 0.14% of Colombo stock exchange (CSE), Pakistan Stock exchange (PSX), and National Stock Exchange (NSE) respectively, when we analyzed independent variables separately as ICP, ACP, and APP under model 1. Considering model 1, the lowest % of the dependent variable is explained by explanation variables in NSE as 0.14%. 1.46% of DP is explained in CSE companies, which is the highest explanation than others. So, when analyzing the impact of CCC's components separately on DP, the results revealed that NSE companies' ICP, RCP, and PCP have explained in highest than others. When analyzing coefficients of variables in such countries, ICP and ACP with DP, generally, the lowest negative ICP, RCP, and positive highest PCP are better for the companies—considering that 0.0020 is the lowest ICP performed by the NSE companies and the lowest ACP and highest APP record in CSE companies as 0.0005 and 0.0306, respectively. In CSE companies' the probability of ICP is at a significant level, less

than 0.05. But other countries and other variables are not at a significant level. By considering model 2, the researcher developed a model for the identified impact of overall CCC on DP. So, the above analysis results depicted the CCC in all countries' influence on DP, and exclude NSE those are insignificant. The Sri Lanka Company's CCC forecast their DP by 0.00% and 24.4%, and NSE predicted 2.37% and PSX, respectively.

Further, the shorter CCC is better for the companies; NSE and PSX companies perform Shorter CCC. This means when CCC increases by one day, the DP decrease by that small. The probabilities of CCC were near zero in NSE and were significant. But probabilities of CCC in CSE and NSE were insignificant. Furthermore, the probabilities of f-static are also close to zero in PSX, revealing that CCC's combined effect on DP is significantly considerable. But in CSE and PSX, the probabilities of the F- statistic are not closer to zero. So, the combined effect of CCC on DP is insignificant.

Through the developing research models, research was analyzed OLS regression by using e-views and results as below,

**Table 1. Regression Results. Summary Analysis: Model 1 and Model 2**

**Model 1:  $DP = \alpha + (\beta_1 ICP) + (\beta_2 ACP) - (\beta_3 APP) + \varepsilon$**

	<i>Coeffici</i>	<i>t-static</i>	<i>Prob.</i>	<i>R2</i>	<i>f-statisti</i>	<i>prob. (f)</i>
<b>CSE</b>				1.46%	1.96	.11804
<i>ICP</i>	-.143	-2.2978	.0221			
<i>ACP</i>	-.0005	.2335	.8155			
<i>APP</i>	.0306	.8003	.424			
<b>PSX</b>				1.33%	1.78	.1496
<i>ICP</i>	-.2688	-1.7393	.0828			
<i>ACP</i>	-.2076	-.7556	.4503			
<i>APP</i>	.3464	1.8659	.628			
<b>NSE</b>				.14%	.1934	.9008
<i>ICP</i>	-.0020	-.0499	.9602			
<i>ACP</i>	-.0117	-.0809	.9355			
<i>APP</i>	.04486	.6184	.5366			

**Model 2:  $DP = a + \beta_4 (CCC) + \varepsilon$**

<i>CSE</i>	.00026	.1209	0.9038	0.00%	0.014	0.9037
<i>PSX</i>	-.4694	-2.28	0.0234	24.4%	1.28	0.0673
<i>NSE</i>	-.0063	-.153	0.8778	2.37%	0.02	0.8776

*Source: Analysis of e-views data (CSE, NSE, and PSX)*

## Conclusion

It can be concluded from this study that working capital management is not a decisive factor in dividend policy decisions. The results arising from the study cannot be generalized to say that working capital management is not crucial in dividend decisions among financial firms in South Asia, as this study is fraught with certain

limitations. Some of these may be due to the small sample size. Because secondary data were used for this study, one hundred per cent accuracy could not be guaranteed. Also, this research involves only four hundred non-financial companies in South Asia. Therefore, the results of this study do not apply to all listed companies. The dividends paid by these firms are not considerably affected by their working capital management. These findings will benefit managers, shareholders, and investors in making informed dividend policy decisions by shedding light on the impact of working capital management on such decisions. As a result, firms can deploy their working capital effectively. The research indicates that dividend policy in Sri Lanka, Pakistan, and India is unaffected by working capital management. In Sri Lanka, ACP, APP, CCC, and DP were not statistically associated in either a positive or negative way, according to the data. A negative relationship existed between ICP and DP. However, it was not statistically significant. The negative correlation between ICP, ACP, CCC, and DP in Pakistan was moderately significant. However, APP and DP in Pakistan tend to complement one another rather effectively. The study of the data revealed that in India, there was no statistically significant relationship between ICP, ACP, APP, and DP. However, positive relationships between CCC and DP have been discovered in India. The correlation analysis 75 demonstrates that the dividend payout ratio is unrelated to the working capital management components in any of the three countries. However, the factoring strategy can be amended to generate a high rate of return for shareholders by reducing accounts receivable and inventory, maintaining an acceptable inventory level, and decreasing CCC by lengthening the time it takes to get paid.

It is suggested that an additional study be conducted comparing the dividend yield on dividend policy metrics with other measures of working capital management, such as the price-to-earnings ratio, the dividend coverage ratio, and the dividend yield. More longitudinal studies should be conducted to determine the relationship, and these studies should also examine non-stock market companies

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## **Impact of the capital structure on the firm's financial performance: evidence from Colombo Stock Exchange in Sri Lanka**

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### **Introduction**

Capital structure is the major corporate decision of the company. According to Horne & Wachowicz (1995) "capital structure is the mix of a firm's permanent long-term financing represented by debt, preferred stock, and common stock equity". It implies that capital structure represents the debt and equity of the company. Some popular theories, namely agency theory, trade-off theory, the pecking order theory, and Modigliani and Miller's irrelevance capital structure theory, describe the behavior of company performance concerning capital structure. Many researchers have also looked at that subject, and a counterargument on the impact of capital structure on firm performance can be found in earlier literature. For instance, Cole & Hemley (2015) looked into how capital structure affected the performance of American companies. Ahmed Rafiuddin (2020) examined it in the capital structure and the firm's performance in the Australian service sector. Sujata Kapoor (2009) also looked into that the relationship between the capital structure and the firms' performance in Indian businesses. Most of them found that there was a significant relationship between capital structure on firm performance when the debt was moderately employed (Yinusa et al, 2019). Some researchers discovered a negative relationship between the capital structure with more debt and firm performance (Salim & Yadav, 2012). Conversely, some research found that there was an insignificant relationship between capital structure and firm performance (Al-taani, 2013). To fill this research gap, by this research, the researchers have investigated the impact of capital structure on firms' financial performance in 45 companies listed in the Colombo Stock Exchange within the 4 sectors such as consumer durables and apparel, health care equipment and services, retailing, and real estate for the period of 10 years from 2011-2020.

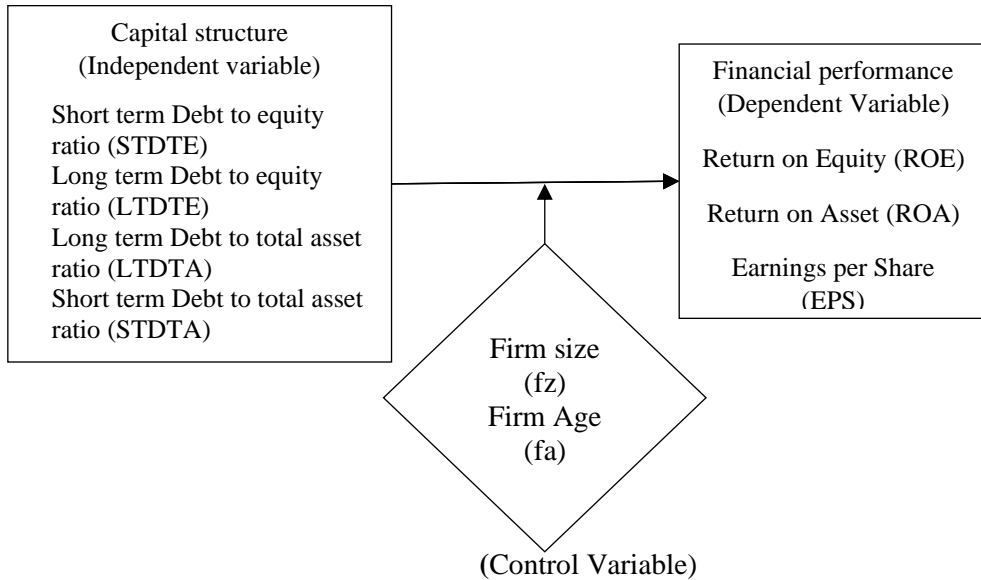
### **Methodology**

This research aims to examine the impact of capital structure on firm performance while addressing the question, "Does Capital structure impact the financial performance of the firm?" This study used 45 companies within 285 companies as the sample from the 4 sectors within 19 sectors including consumer durables and apparel, health care and equipment, retailing, and real estate listed in the Colombo Stock Exchange in Sri Lanka from the period of 10 years from 2011-2020. The sample was selected by using the Morgan table with a 95% confidence level and based on a random basis.



Data was collected from secondary data sources such as annual reports, websites, and the CSE data library. Panel data were used to examine the impact. Multiple regression analyses were used to analyze the data. By using Hausman test results, the random effect GLS model was used in this research.

The conceptual framework in Figure 1, shows the main variables considered in this research.



**Figure 1. Conceptual Framework**

Several hypotheses were formulated through an extensive inquiry of the prior literature and the following models are supposed to be tested.

$$ROE = \pm\beta_0 \pm \beta_1 STDTE_{it} \pm \beta_2 LTDTE_{it} \pm \beta_3 STDTA_{it} \pm \beta_4 LTDTA_{it} \pm \beta_5 fz_{it} \pm \beta_6 fa_{it} + \varepsilon \dots (1)$$

$$ROA = \pm\beta_0 \pm \beta_1 STDTE_{it} \pm \beta_2 LTDTE_{it} \pm \beta_3 STDTA_{it} \pm \beta_4 LTDTA_{it} \pm \beta_5 fz_{it} \pm \beta_6 fa_{it} + \varepsilon \dots (2)$$

$$EPS = \pm\beta_0 \pm \beta_1 STDTE_{it} \pm \beta_2 LTDTE_{it} \pm \beta_3 STDTA_{it} \pm \beta_4 LTDTA_{it} \pm \beta_5 fz_{it} \pm \beta_6 fa_{it} + \varepsilon \dots (3)$$

## Findings

The summary of descriptive analysis reveals that all the variables have positive mean values. The figures in Table 01 reveal a very poor return on performance during the sample period (i.e. ROE = 0.067, ROA = 0.04, and EPS = 16.29). This indicates that, typically, the selected companies do not effectively utilize their assets to produce profit for their shareholders. Simply put, throughout the 10 years, the companies made an average profit of 0.0468 rupees for each rupee invested in assets. Additionally,

shareholders were able to earn an average return of 0.067 on each equity they invested in a select group of companies. Shareholders can earn an average return of 16.296 over ten years by purchasing one share in the company.

On the other hand, the mean value of the proxies of the capital structure has a higher mean value. It implies that selected companies are highly levered within the sample period. As may be seen, certain businesses have historically financed themselves more with short-term debt than with equity. The STDTE ratio reveals an average of 0.73 times more short-term debt than equity. Additionally, the LTDTE ratio indicates that there is on average 0.32 times as much long-term debt as equity. This proved that these businesses utilized more short-term debt than long-term debt. Also, it was discovered that selected companies were heavily financed by debt, but not more so than through equity financing. In the sampled companies, the average total asset was financed by long-term debt for 0.143 of its value whereas the average total asset was financed by short-term debt for 0.246 of its value.

**Table 01. Descriptive Analysis**

<b>Variables</b>	<b>ROE</b>	<b>ROA</b>	<b>EPS</b>
STDTE	-0.1149*	-0.0088*	-0.1073
LTDTE	-0.0659*	0.0127**	0.1805
LTDTA	0.1196	-0.1155*	-24.2217
STDTA	0.4211*	0.0173	-10.0805
FZ	0.0085*	0.0013	1.0438
FA	-0.0842*	-0.0342*	19.1628

\*Significant at 5% significant level \*\*Significant at 10% significant level

The findings showed that the impact of capital structure on firm performance varied from the variables and indicators that are used to measure the capital structure and the firm performance. These findings concur with those of (Kipasha & Kipasha, 2014) and (Cole & Hemley, 2015). The findings demonstrated that the STDTE ratio has a significant and negative impact on business performance. However, the LTDTE ratio has a significant positive impact on ROA and a negative one on ROE. Yet, the influence of capital structure on the LTDTE and the EPS is negligible.

Also, LTDTA has a negative impact on ROA and EPS while there is a positive impact on ROE. Except for EPS, STDTA has a favorable impact on business performance. Further, the findings reveal that firm size positively impacts firm performance and firm age negatively affects the firm performance except for EPS. Furthermore, it was found that an increase in STDTE caused to decrease in the firm performance, and an increase in LTDTE caused to boost in the performance of the firm. Moreover, an increase in LTDTA caused to decrease in the firm performance while an increase in STDTA caused to increase in the performance of the firm.

## **Conclusion**

The findings of the study revealed that selected companies used more short-term debt than equity as their main source of finance. And the estimated model explained that

STDTE and LTDTE have a significant negative relationship with ROE at a 95% confidence level. Also, it was found that there is a significant positive relationship between STDTA and control variables including firm size and firm age and ROE. Apart from that, there was an insignificant positive relationship between long LTDTA and the ROE.

Furthermore, according to the analysis, there was a negative significant relationship between STDTE, LTDTA, and the firm age and the ROA. And also there was an insignificant positive relationship between LTDTE, STDTA, and the firm size and ROA. But with the 90% confidence level, there was a significant positive relationship between LTDTE and ROA. Also, there was an insignificant negative relationship between the STDTE, LTDTA, STDTA, and EPS, and an insignificant positive relationship between LTDTE and firm size, firm age and EPS.

Finally, researchers concluded that the impact of capital structure on business performance can vary depending on the variables and indicators. Results also indicated that more debt used in capital structure caused to decline the financial performance and the firm should maintain optimum debt and asset ratio to boost the performance.

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## **Impact of cash conversion cycle on firm's profitability: evidence from listed manufacturing companies in Sri Lanka**

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### **Introduction**

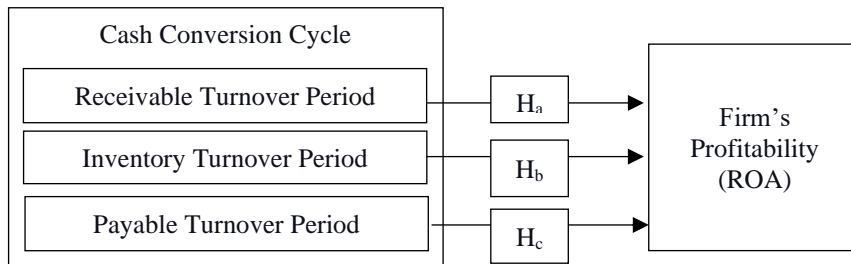
Working capital management (WCM) is regarded as a company's lifeblood and has a direct impact on the company's liquidity and profitability. The cash conversion cycle is the most important component of the effective WCM of a business. According to Bhutto et al., (2011), there are two ways to appraise the WCM of a firm; the first way is by studying current assets and current liabilities and following the concept of financial statement position. The second way is the concept of WCM from the outlook of the cash conversion cycle.

The cash conversion cycle (CCC) is a metric that measures the time it takes a business to turn its investments in inventory and other resources into cash flows from sales, expressed in days (Hayes, 2022). Shilling (1996) explained the CCC as a tool that measures the gap between the time that cash expenses are made to purchase inventory for using the production process and the time that funds are received from the sale of the finished goods. Regardless of the way how it is defined, CCC considers how long it takes the company to sell its goods, how long it takes to collect receivables, and how long it has until it can pay its obligations without being penalized. As a result, it is believed that the CCC of a company is the most widely used measure for calculating the risks and rewards related to profitability and liquidity management.

According to Bolek et al. (2012), CCC is a dimension that correlates profitability and liquidity on the other side. In a nutshell, the quicker the conversion of funds, the faster cash is released for the next cycle, resulting in an increase in liquidity. The purpose of this paper is sought to investigate the possible impact of the CCC on the firm's performance (i.e., profitability) in listed manufacturing companies (LMC) in the beverage food, and tobacco industry in Sri Lanka over the 2016-2021 period. The performance of businesses was assessed in terms of Return on Assets (ROA), and the CCC was assessed by the Receivable Turnover Period (RTP), Inventory Turnover Period (ITP), and Payable Turnover Period (PTP).

Based on the relevant pieces of literature, researchers constructed the conceptual framework as shown in Figure 1. The average number of times a business collects its accounts receivable over a given year is known as the receivable turnover period (RTP). It is a metric used by businesses to gauge how effectively businesses collect on the credit they extend to their customers. Romeo and Panbunyen, (2010) examined the evidence that companies have proposed several techniques such as strengthening their collection procedures, offering cash discounts and trade credit, and

using receivable factoring to improve the management of accounts receivable. A higher RTP illustrates that the firm's collection activities are poor or there are some customers with credit problems. On the other hand, a low RTP represents that the firm is following a rigorous credit policy which affects to hide its sales (Muscettola, 2014).



**Figure 01: Conceptual Framework**

Inventory turnover refers to the amount of time that passes from the day an item is purchased by a company until it is sold. It illustrates the number of periods that the inventories are held in the company before being sold. When days became lower, it shorten the CCC period because CCC in days arrived by multiplying that amount given by the average number of days the of the year (Lantz, 2008).

The PTP is calculated to identify the average number of days that the company takes to settle its payables. Though the above-mentioned two ratios are better to keep short, acquiring a greater number of days of accounts payable is more suitable for a shorter cash conversion period (Lantz, 2008). The findings of Boisjoly's (2009) study reveal an increase in account payable turnover over the 15 years have extended their payment periods to suppliers from 45 to 60 days or 60 to 90 days. Therefore, a longer conversion period illustrates that the firm can delay its payables and save money with the company in more periods (Muscettola, 2014).

## Methodology

The study uses a descriptive and quantitative research approach to identify the impact of the cash conversion cycle on a firm's profitability. This study used both inferential and descriptive statistics in analyzing data. Correlation analysis and multiple regression analysis were used to analyze cross-sectional panel data covering 20 listed companies operating in the beverage food and tobacco industry in Sri Lanka from 2016 to 2021, using the statistical package for social sciences (SPSS).

Frequency distribution tables were used to provide visual summaries of the data, together with descriptive frequencies, percentages, and means for each specified variable. Multiple regression analysis and the correlation coefficient were both utilized to determine the nature of the relationship between the variables. The multiple regression analysis was performed to determine the impact of CCC on firms' profitability while the correlation coefficient was employed to assess the relationship between dependent and independent variables.

The following three equations were used to assess the hypotheses of this study:

H<sub>a</sub>: there is a significant positive impact of the receivable turnover period (RTP) on firms' profitability (ROA).

$$ROA = \beta_0 \pm \beta_1 RTP + \varepsilon \longrightarrow 01$$

H<sub>b</sub>: there is a significant positive impact of the inventory turnover period (ITP) on firms' profitability (ROA).

$$ROA = \beta_0 \pm \beta_1 ITP + \varepsilon \longrightarrow 02$$

H<sub>c</sub>: there is a significant positive impact of the payable turnover period (PTP) on firms' profitability (ROA).

$$ROA = \beta_0 \pm \beta_1 PTP + \varepsilon \longrightarrow 03$$

Where:

$\beta_0$  = Constant Value,  $\beta$  = coefficients of Variable, FP = Firms' Performance, RTP = Receivable Turnover Period, ITP = Inventory Turnover Period, PTP = Payable Turnover Period,  $\varepsilon$  = Error Term

### Data Analysis

The research attempted to measure the correlation between the components of the cash conversion cycle and firms' profitability (ROA). Additionally, it shows how CCC significantly affects the profitability of the listed firms in the beverage, food, and tobacco industry in Sri Lanka. The degree of CCC impact on a firm's performance that differed significantly was examined using a one-way ANOVA test.

Table 1 shows the descriptive statistics of the dependent and independent variables.

**Table 1. Descriptive Analysis**

	N	Minimum	Maximum	Mean	SD
Year	100	2017	2021	2019.00	1.421
RTP	100	26	295	144.52	47.152
ITP	100	7	104	44.08	22.754
PTP	100	-592	688	29.03	96.361
FP	100	-34.28	71.70	11.2099	15.44525

The degree of the relationships between the CCC and FP are revealed by the Pearson correlation analysis results given in Table 2.

**Table 2. Correlations**

		ROA	RTP	ITP	PTP
	Pearson Correlation	1	.841**	.784**	.781
ROA	Sig. (2-tailed)		.000	.000	.000
	N	100	100	100	100

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

According to the findings of the correlation analysis, RTP ( $r = .841, P < .01$ ), ITP ( $r = .784, P < .01$ ), and PTP ( $r = .781, P < .01$ ) show a significant and positive relationship with the firm's profitability. Accordingly, it can be concluded that there is a significant positive relationship between firms' profitability and their receivable turnover period ( $H_a$ ), inventory turnover period ( $H_b$ ), and payable turnover period ( $H_c$ ).

**Table 3. Multiple Regression Analysis**

Model	Unstandardized Coefficients		Std. Coefficients	t	Sig.	
	B	Std. Error	Beta			
	(Constant)	37.545	4.609		8.146	.000
1	RTP	-.119	.029	-.363	-4.049	.000
	ITP	-.199	.061	-.293	-3.271	.001
	PTP	-.012	.014	-.076	-.881	.380

*a. Dependent Variable: ROA*

According to the findings of the multiple regression analysis, two elements of CCC (i.e., RTP and ITP) show a significantly negative impact on firms' profitability (RTP:  $\beta = -.119, P = .000$ , ITP:  $\beta = -.199, P = .001$ ). However, the impact of PTP on firms' profitability is insignificant (PTP:  $\beta = -.012, P = .380$ ) at the 0.01 level.

The results indicated that if the receivable turnover period (RTP) and the inventory turnover period (ITP) of a firm decreased from one day, the firm's profitability increases by 0.119 and 0.199 when other variables are constant.

## Conclusion

The cash conversion cycle is an important concept to address the needs of the investor. Possessing a good understanding of the cash conversion cycle cause to avoid misunderstandings among investors on the cash conversion cycle. The results of the correlation analysis revealed that the receivable turnover period, inventory turnover period, and payable turnover period have a strong positive relationship with the profitability of firms. Further, the study found that the receivable turnover period and the inventory turnover period negatively affect the firm's profitability of listed companies in the beverage, food, and tobacco industry in Sri Lanka. These results suggested that managers can increase the profit of their businesses by reducing the number of days of account receivables and inventories to a reasonable extent. Based on the findings, researchers concluded that an improved working capital policy could improve firm profitability by reducing the firm's CCC, thereby creating increasing the profit of a business.

The present study contributes to the literature on the impact of CCC on a firm's profitability in the beverage, food, and tobacco industry in Sri Lanka. The main limitation of this study is that it is limited to a sample of 20 listed companies in the beverage, food, and tobacco industry in Sri Lanka; further research could consider an increase in the sample size and examine the generalizability of these findings to other industries as well.

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## Corporate investment decisions and the firm performance

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### Introduction

Corporate investment decisions are those made by management to place money in a variety of assets in order to provide investors with the highest potential returns. The notion of investment decisions is based on Modigliani and Miller's (1958) theory, which developed the principle of investment separation, the theorem of the irrelevance of capital agency difficulties, and the possibility of cost disadvantages for external financing (Jensen & Meckling, 1976).

The impact of investments on corporate performance has been explored in different contexts (Hatem, 2015; De Silva et al., 2013; Mukhtar et al., 2016; Sajid et al., 2016; Gabow, 2017), and it was found that there is a significant impact of investment decision on the performance of firms. However, most of those studies have focused on one proxy for investment decisions (Santoso, 2019) and one aspect of firm performance as either financial or market performance. Consequently, no definitive proxy was found to assess how investment decisions affect corporate performance (Islam et al., 2020). Therefore, in order to gauge the impact of investments on the firm performance, our study employs three proxies for investments simultaneously as the independent variable, namely; investment index (Islam et al., 2020), capital expenditure (Mercatanti et al., 2017) and total assets growth (Hatem, 2016).

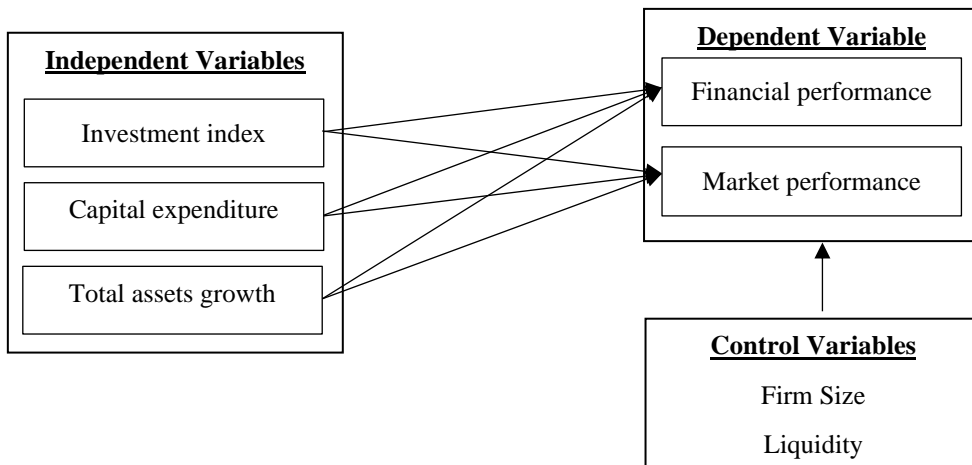
Additionally, it is quite difficult to locate earlier research that evaluates the impact of investment choices on both the financial and market performance of firms. Many sorts of studies solely took market or financial performance into account. Thus, their conclusions are simply based on that one aspect of firm performance. The literature investigating the impact of investment choices on firm performance in both aspects of financial and market performance is similarly lacking in Sri Lanka. Due to these factors, this study examines the impact of corporate investment choices on the financial and market performance of listed firms in the Colombo Stock Exchange (CSE). This research is, therefore, more trustworthy and valuable in contributing to the existing literature.

### Methodology

As of the end of July 2021, the population of this research consisted of 285 firms from 19 industrial categories. Using the stratified random sampling approach with industrial sectors as strata, 80 companies were selected as the study's final sample. Secondary data were collected from the annual reports of the selected companies for a period of 7 years from 2014 to 2020, with 560 observations. E-views were utilised in a panel

data regression analysis so that the hypotheses that were offered in the study could be tested.

The variables for the study were identified by referring to the previous literature on the impact of corporate investment decisions on firm performance. Accordingly, firm performance is the dependent variable which is measured from two aspects as financial performance and market performance. Financial performance is measured through return on assets (Salim & Yadav, 2012; Islam et al., 2020; Hussain et al., 2020), and market performance is measured using Tobin's Q (Kemuma, 2014; Farooq & Masood, 2016; Islam et al., 2020). The investment decision is the independent variable which is proxied through three indicators; investment index (Hatem, 2016; Romamti et al., 2021), capital expenditure (Frank & Goyal, 2009; Islam et al., 2020), total assets growth (Joan, 2013; Hatem, 2016). Firm size and liquidity were taken as the control variables (Hatem, 2016; Nazar 2021; Islam et al., 2020). The conceptual framework is shown in Figure 1.



**Figure 1. Conceptual Framework**

The hypotheses and research models of the study were developed referring to previous literature.

- H<sub>1a</sub>: There is a significant impact of the investment index on the financial performance of listed companies in CSE
- H<sub>1b</sub>: There is a significant impact of the capital expenditure on the financial performance of listed companies in CSE
- H<sub>1c</sub>: There is a significant impact of the growth of total assets on the financial performance of listed companies in CSE
- H<sub>2a</sub>: There is a significant impact of the investment index on the market performance of listed companies in CSE

H<sub>2b</sub>: There is a significant impact of the capital expenditure on the market performance of listed companies in CSE

H<sub>3c</sub>: There is a significant impact of the total assets growth on the market performance of listed companies in CSE

$$\text{Model 01: } FP = \alpha + \beta_1 INVEX + \beta_2 CAPEX + \beta_3 TAG + \beta_4 FS + \beta_5 LIQ + \mathcal{E}$$

$$\text{Model 02: } MP = \alpha + \beta_1 INVEX + \beta_2 CAPEX + \beta_3 TAG + \beta_4 FS + \beta_5 LIQ + \mathcal{E}$$

Where; FP is the financial performance,  $\alpha$  is the intercept, INVEX indicates the investment index, CAPEX represents the capital expenditure, TAG is the growth of total assets, FS indicates the firm size, LIQ is the liquidity,  $\mathcal{E}$  is the error term

## Findings

Descriptive statistics are demonstrated in Table 1. According to the outcome, the mean value of the financial performance of listed companies on the CSE is 0.0743, indicating that the profitability of firms in the CSE is generally good. When considering the market performance, the average Tobin's Q value of 1.0935 implies that the market value of the firms in the CSE is greater than the value of the recorded assets. Mean values for the investment index, capital expenditure and total assets growth are 0.7603, 0.0742, and 0.0803, respectively. Correlation analysis shows that no multicollinearity issues were identified with the independent variables.

**Table 1. Results of Correlation Analysis**

	FP	MP	INVEX	CAPEX	TAG	FS	LIQ
Mean	0.074362	1.0935	0.760368	0.074288	0.080287	21.61337	6.02891
Median	0.034738	0.629811	0.801703	0.019886	0.049205	21.62337	1.310887
Maximum	6.433817	9.66457	0.999459	4.188469	3.403527	25.61831	796.3139
Minimum	-3.07079	0.002944	-0.10879	-0.22691	-0.6715	15.69021	0.010119
Std. Dev.	0.49874	1.380437	0.205306	0.233119	0.246777	1.541033	36.98378

The Hausman test was conducted to select between fixed and random effects models. Accordingly, it was determined that the fixed effect model was the most appropriate for Model 1, whilst the random effect model was the most appropriate for Model 2. As shown in Table 2, the findings of the regression analysis indicate that the investment index and total assets growth both have a significant positive impact on financial performance, which leads to the acceptance of H<sub>1</sub> and H<sub>2</sub> of the study, respectively. It indicates that when the investment in assets is increased, it will result in the financial performance of firms. However, H<sub>3</sub> is not supported, demonstrating that the significance of capital expenditures in financial performance is not considerable.

**Table 2. Results of Regression Analysis**

Variable	Model 1			Model 2		
	Financial Performance			Market Performance		
	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
C	1.4016	-0.6529	0.5141	14.3348***	10.2382	0.0000
INVEX	0.3778***	4.9030	0.0000	-0.1488	-0.6367	0.5246
CAPEX	-0.0023	-0.0468	0.9627	0.2918*	1.8938	0.0588
TAG	0.2269***	6.6011	0.0000	-0.2380**	-2.2262	0.0264
FS	0.0084	0.2612	0.7941	-0.6078***	-9.5077	0.0000
LIQ	-0.0002	-1.1000	0.2719	0.0009	1.3375	0.1816

\*\*\* significant at 1% level, \*\* significant at 5% level, \* significant at 10% level

When considering market performance, capital expenditure has a significant positive influence on market performance, but growth in total assets has a significant negative impact on market performance, convincing us to accept the H<sub>5</sub> and H<sub>6</sub>. These findings imply that increased capital spending enhances market performance. Furthermore, though it is quite surprising, the results suggest that market performance is deteriorated by the growth of total assets. As a control variable, firm size also significantly affects market performance. Findings of the study comply with Mukhtar et al. (2016), Sajid et al. (2016), Gabow (2017), and Islam et al. (2020).

## Conclusion

This study examined how the investment decision of firms affect the firm performance of listed companies in Sri Lanka from two perspectives; financial performance and market performance. Data for the investigation were gathered from 80 companies for a period of 7 years from 2014 to 2020.

The findings emphasize that the increase in investment index and growth of total assets enhance the financial performance whilst the increase in capital expenditure and less growth of total assets enhance the market performance. Referring to these findings, potential investors and shareholders may get a better sense of how investment decisions affect both financial and market performance. Accordingly, they can benefit from the findings by getting a feeling of the value of and chances of survival of their business based on investment choices. Furthermore, the results of this study help managers create the best investment plans for achieving a company's investment goals.

Further research can be conducted on this area using different proxies for investment decisions and firm performance to reach a better conclusion. Furthermore, future research is encouraged using the triangulation approach as well to consider the behavioural aspect of investment decisions.

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## **Impact of working capital management on profitability: special reference to listed manufacturing companies in Colombo Stock Exchange**

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### **Introduction**

The objective of working capital management is to maintain the current assets and current liabilities of the company by ensuring the smoothness of day-to-day operations without disruption, and it represents the day-to-day operating liquidity of a company (Kengatharan & Tissera, 2019). That means, without its nature, all organizations need sufficient working capital to operate their day-to-day activities. Management of working capital is the most important factor in maintaining the liquidity, solvency, and profitability of a business. So, without proper working capital management to go align with its long-term strategies, financing and value creation cannot be achieved.

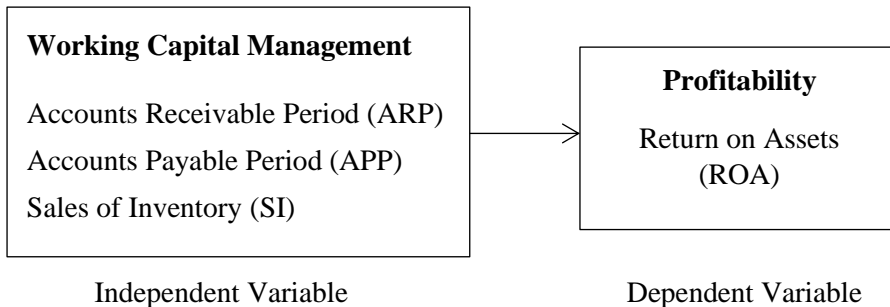
Working capital management ensures that a company has sufficient cash flows to meet its short-term debt obligations and operating expenses. When a company does not have sufficient working capital to meet its obligations, financial insolvency will result in several problems and possible bankruptcy. Further, it is not favorable to retain too much working capital in the company as excessive liquidity does not create profits for the company. However, if businesses wish to preserve profitability and long-term existence, day-to-day business activities should be uninterrupted. Therefore, proper working capital management is important to the fundamental financial health and operating performance of an organization as a corporation. The current study focuses on the manufacturing companies which are listed in Colombo Stock Exchange (CSE) since it is seen as one of the main segments of the economy and makes a major contribution to the economic development of the country, which provides approximately 1.5 million job opportunities (Kengatharan & Tissera, 2019). Therefore, the failure of one company may affect the whole economy. In manufacturing companies, many assets are composed of current assets, and therefore, significant attention should be paid on working capital management.

Working capital management is all about managing current assets and current liabilities (Panda & Nanda, 2018). The cash conversion cycle, accounts payable period, accounts receivable period, and sales of inventory are considered key dimensions to determine working capital management efficiency (Sathyamoorthi et al., 2018). According to Megeid & Sobhy (2015), return on assets is one of the key dimensions to determining profitability. Several researchers found a relationship

between the working capital management components and profitability (Kwatiah and Asiamah, 2020; Alvarez et al., 2021). Therefore, the main objective of the present study is to determine the impact of working capital management on the profitability of listed manufacturing companies in the Colombo Stock Exchange.

## Methodology

To achieve the research objectives, the researchers followed a positivism research paradigm and used the deductive approach since pre-determined hypotheses were tested based on a theory. Moreover, the present study was performed with a quantitative research approach since it used quantitative research methods for data analysis purposes. In this study working capital management was the independent variable, and it was measured by the cash conversion cycle, where the cash conversion cycle is measured by the accounts receivable period, accounts payable period, and sales of inventory. The dependent variable of this study was profitability, and it was measured by return on assets (ROA). Based on the reviewed literature on existing studies and theories, the following conceptual framework, as indicated by figure 1, was developed by the researchers to identify the impact of working capital management on the profitability of listed manufacturing companies in the CSE.



**Figure 1: Conceptual Framework**

The functional variable relationship is provided with the following model.

$$ROA = \beta_0 + \beta_1 ARP + \beta_2 APP + \beta_3 SI + \varepsilon$$

In this model, ROA denotes the return on assets of the listed manufacturing companies in CSE. ARP denotes the accounts receivable period, APP denotes the accounts payable period, and SI denotes the sale of inventory in the independent variable.  $\beta_0$  was the constant and  $\beta_1 - \beta_3$  denotes the coefficients of variables.  $\varepsilon$  represents the error term of the model.

The target population of the study is 36 public listed manufacturing companies in Colombo Stock Exchange whose financial year ended on 31st March. For the present

study 24 manufacturing companies were selected based on market capitalization. Data were collected at the firm level and used secondary data from the audited annual reports of selected companies for a five-year period commencing from 2015 to 2020, which provided 120 observations. Annual reports provide information related to the financial performance and the set of financial statements, including the statement of comprehensive income, statement of financial position, statement of cash flows and the statement of changes in equity, provides in-depth information related to the financial performance of companies. The present study employed correlation analysis to investigate the relationship between working capital management and profitability and multiple regression analysis to analyze the impact of working capital management on the profitability of listed manufacturing companies in the CSE. Data analysis was done by using SPSS software.

## Findings

The main descriptive statistics as mean, median, maximum value, minimum value, skewness, and standard deviation were calculated for all working capital management and profitability variables. According to descriptive analysis, the maximum number of days a company has to be waiting to receive accounts receivable is 420 days, and the minimum is 1.4 days, with an average of 106.75 days. The maximum number of days a company takes to pay accounts payable is 475.8 days, and the minimum is 14.7 days, with an average of 70.63 days. The maximum number of days a company takes to sell and replace its stock is 697.5, and the minimum is 16.4 days, with an average of 120.7 days. The average return on assets of the model is 7.221%. The maximum ROA is 45.8%, and the minimum is -8.6%.

To measure the correlation among the variables of the study, the Pearson correlation analysis was used. In addition to that, Analysis of Variance (ANOVA) was used to confirm the expected hypothesis. Table 1 shows the results of the correlation analysis.

**Table 1: Correlation Analysis**

Variable	ROA	P Value
ARP	-0.309	0.001
APP	0.07	0.449
SI	-0.283	0.002

The correlations analysis revealed that there was no significant relationship between APP and ROA ( $p > 0.05$ ). However, there was a significant negative relationship between ARP and ROA ( $p < 0.05$ ), as well as a significant negative relationship between SI and ROA ( $p < 0.05$ ).

The regression analysis was used to explain the impact of variables as well as the fitness of the model. In addition to that, Analysis of Variance (ANOVA) was used to confirm the expected hypothesis.



**Table 2: Regression Analysis**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.76	1.442		8.155	0.000
ARP	-0.034	0.012	-0.284	-2.728	0.007
APP	0.016	0.013	0.118	1.199	0.233
SI	-0.017	0.008	-0.251	-2.085	0.039

According to the regression analysis, ARP showed a significant negative impact on the profitability ( $r=-0.034$ ,  $p=0.007<0.05$ ), APP showed an insignificant positive impact on the profitability ( $r=0.016$ ,  $p=0.233>0.05$ ), and SI showed a significant negative impact on the profitability ( $r=-0.017$ ,  $p=0.039<0.05$ ). Accordingly, it denoted that when ARP decreases from one day, ROA will increase by 0.034 units while other independent variables remain constant. When considering APP it denoted that when APP increases from one day, ROA will increase by 0.016 units while other independent variables remain constant. However, the result was not significant at any level. Moreover, when SI decreases from one day, ROA will increase by 0.017 units while other independent variables remain constant. The findings of the present research comply with previous studies (Thenuwara & Ekanayake, 2021; Aldubhani., 2022).

## Conclusion

This study was conducted to analyze the impact of working capital management on the profitability of listed manufacturing companies in the Colombo Stock Exchange. The results of the analysis indicated that there was a significant negative impact of the accounts receivable period and sales of inventory on the profitability of listed manufacturing companies in the CSE. Further, it revealed that the accounts payable period had no significant impact on the profitability of listed manufacturing companies in the CSE. The findings of the present study conclude that working capital management has an impact on profitability. Therefore, the researchers can suggest that the firms should pay more attention to their working capital management since it is a very important concept to carry on their business operations smoothly. Further, manufacturing companies should be more concerned about the accounts receivable period and the sales of inventory to enhance their profitability.

Here researchers considered only 24 listed manufacturing companies in the Colombo Stock Exchange which can be identified as a limitation of the present study. Therefore, future research may be carried out by expanding its scope to other industries for better understanding and generalizing of the findings since a larger and more diversified population enhances the accuracy and reliability of the study. The study can be further

developed by increasing the number of variables used in the model and can also be considered some control variables.

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# *Corporate Governance and Sustainability*

## **The association between corporate social responsibility and financial performance: with special reference to the public quoted companies listed on the Colombo Stock Exchange**

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### **Introduction**

CSR is commonly recognized at the corporate level as a strategic strategy that contributes to the image of a brand. McWilliams & Siegel, 2001, describe Corporate Social Responsibility as “actions that appear to further some social good, beyond the interest of the firm and that which is required by law.” Further they states that, CSR is going beyond obeying the law. According to them, continually stakeholders are pressuring managers to engage with CSR activities. Those pressures are emerging from the different stakeholder groups who have conflicted objectives with other stakeholders. According to Gholipour, Nayeri, & Mehdi, 2012, CSR is the idea that illustrate business should do something to their society other than shareholders beyond the boundaries of union contract and mere ownership.

In the traditional business world, firms only try to increase the wealth of their stockholders. They do not address the needs of other stakeholders. As they wish to increase the shareholders’ wealth, they always try to increase the profit and they wish to retain sufficient retained earnings to strengthen future operations. Therefore, they do not like to block their earnings to implement CSR activities that they do not receive in short term. Therefore, the research problem of this study is to identify the significant association between corporate social responsibility and the firm’s financial performance.

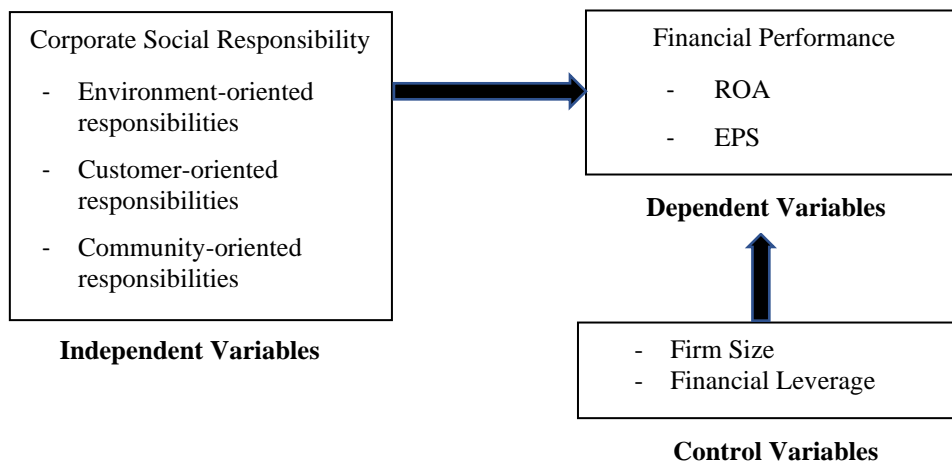
There are so many empirical studies that are addressed about the CSR practices and performances in western cultures based on listed companies. However, it is very rare to see researches on CSR vs. Profitability either in Asian or western cultures. Therefore, this investigation is directed to fill the knowledge gap in the Sri Lankan context. The objective of this study is to examine the association between corporate social responsibility and financial performance with special reference to the publicly quoted companies listed on the Colombo Stock Exchange (CSE).

Iraya, 2013 has selected 10 manufacturing companies listed on Nairobi Securities Exchange, and they found that the relationship between firm performance and CSR is positive but insignificant. Additionally, Johansson, Karlsson, & Hagberg, 2015 investigated the association between CSR and firm performance and they found that there is no significant relationship between CSR and firm performance. On the other hand, Hamid, 2011 has found the relationship between CSR and firm performance and findings revealed that there is no significant relationship as per the regression and

correlation results. Their all-alternative hypotheses have been rejected under the 5% of the significance level. On the other hand, Hamid, 2011 has found the relationship between CSR and firm performance and findings revealed that there is no significant relationship as per the regression and correlation results. Kengatharan, Jeyan, & Sulochani, 2020 have investigated the impact of corporate social responsibility on firm performance. Findings revealed that there is a significant negative impact of economic activities, social activities, and environmental activities on Tobin's Q. Garg & Gupta, 2020 have also found the impact of CSR expenditure on firm performance in India and according to the results there is no significant impact on CSR and firm performance.

## Methodology

This study takes the quantitative research approach due to the fact that secondary data for firm performance were collected for the five-year period from 2017 to 2020. The sample of the study consists of 10% of listed companies in Sri Lanka. Data was collected from annual reports of the selected companies listed on the Colombo Stock Exchange and analyzed data using E-views 12 software. Descriptive statistics, correlation and regression analysis were used as data analysis methods. In this research independent variables are environment-oriented CSR, Community oriented CSR, and customers-oriented CSR. Dependent variable is firm performance which was measured using Return on Assets and Earnings per share. Firm size and financial leverage were the control variables. The conceptual framework is as follows.



**Figure 1. Conceptual Framework**

According to the conceptual framework, researcher builds up hypotheses. This research finds out association between CSR and firm performance. According to that objective, researcher build hypotheses test as follows,

$H_1$  = There is a significant association between corporate social responsibility and financial performance.

H<sub>1A</sub> = There is a significant association between community oriented responsibility and financial performance.

H<sub>1B</sub> = There is a significant association between customer oriented responsibility and financial performance.

H<sub>1C</sub> = There is a significant association between environment oriented responsibility and financial performance.

H<sub>1D</sub> = There is a significant association between firm size and financial performance.

H<sub>1E</sub> = There is a significant association between financial leverage and financial performance.

The model of the research is as follows.

$$ROA = \beta_0 + \beta_1 EOR_{it} + \beta_2 CUOR_{it} + \beta_3 COR_{it} + \beta_4 FZ_{it} + \beta_5 FL_{it} + \varepsilon$$

$$EPS = \beta_0 + \beta_1 EOR_{it} + \beta_2 CUOR_{it} + \beta_3 COR_{it} + \beta_4 FZ_{it} + \beta_5 FL_{it} + \varepsilon$$

Where,

ROA : Return on asset, EPS : Earnings per share,  $\beta_0$  : Intercept, EOR : Environment-oriented responsibility, CUOR : Customer-oriented responsibility, COR : Community-oriented responsibility, FZ : Firm Size, FL : Financial Leverage

## Findings

The study collected data for a five-year period and firm year observations of the research were 150.

### Correlation and Regression Results

**Table 1: Correlation and regression results**

Variab le	ROA				EPS			
	Correlati on	Probabil ity	Coefficie nt	Probabil ity	Correlati on	Probabil ity	Coefficie nt	Probabil ity
EOR	0.0394	0.6321	0.1165	0.6219	0.2530	0.0018	4.5019	0.0138
CUOR	0.0365	0.6574	0.1554	0.6207	0.0612	0.4567	-0.1702	0.9436
COR	0.0405	0.6223	0.1655	0.5503	-0.2541	0.0017	-6.8137	0.0016
FZ	0.0084	0.9184	0.0121	0.9707	0.0030	0.9709	-3.3032	0.1950
FL	0.0240	0.7705	0.0386	0.9105	0.2978	0.0002	9.4808	0.0004
R <sup>2</sup>				0.005				0.194

Source: Researcher Constructed, 2022

Table 1 shows the outputs of correlation analysis and regression analysis. Dependent variables were ROA and EPS. EOR, CUOR, and COR were independent variables while FL and FZ were control variables. As per the regression results in the table 1, EOR, CUOR, COR, FZ, and FL have an insignificant impact on ROA. So it concludes that there is no any significant relationship with variables of EOR, CUOR, COR, FZ, FL and firm financial performance. Based on the overall regression analysis of ROA,

there is no significant association between CSR activities and the dependent variable of Return On Assets (ROA). The researcher accepts the null hypothesis ( $H_0$ ) and rejects the alternative hypothesis ( $H_1$ ) under the 5% of the significance level.

On the other hand, EOR, COR, and FL have shown a significant impact on EPS while CUOR, and FZ has indicated an insignificant impact on EPS. However, COR has shown a negative significant relationship with EPS. So it concludes that there is a significant relationship with variables of EOR, COR, FL and firm financial performance. On the other hand there is no any significant relationship with variables of CUOR, FZ and firm financial performance. Based on the overall regression analysis of EPS, there is a significant association between CSR activities and the dependent variable of Earnings Per Share (EPS). The researcher rejects the null hypothesis ( $H_0$ ) and accepts the alternative hypothesis ( $H_1$ ) under the 5% of the significance level.

The researcher has built up the research model based on previous studies for testing the relationship between independent variables and dependent variables. According to the regression results, the model can be developed by using significant variables as follows.

$$EPS = 11.920 + 4.5019 EOR_{it} - 6.8137 COR_{it} + 9.4808 FL_{it} + \varepsilon$$

## Conclusion

The researcher conducted this research to investigate the impact of examining the association between corporate social responsibility and financial performance. Its major objective is to investigate the relationship between corporate social responsibility and financial performance. This objective was guided by research questions and hypotheses. E-views software was used in the analysis of the data and testing the hypothesis at a 0.05 level. The findings that emerged from the study showed no significant relationship between CSR and ROA, while EPS has a significant relationship.

According to the regression test results, there is an insignificant relationship between CSR and ROA because their significance level is greater than the 0.05 level. On the other hand, there is a significant relationship between EPS and CSR due to the less than the significance level. So, the conclusion of the study is the no association between CSR and ROA and also accepted the null hypothesis. According to the EPS results, there is a significant association between EPS and CSR and the researcher accepted the alternative hypothesis. For getting accurate results the study has some limitations. The model of the study is very simple, and the researcher only selected the two dependent variables for the valuation of financial performance. On the other hand, CSR can describe in various ways. But researcher is used to only EOR, CUOR, and COR. In addition to that, the researcher measures the association when comparing CSR only. Many determinants can be applied to measure the relationship between CSR and financial performance.

This study is important for parties such as investors, managers, CSE, Central Bank of Sri Lanka, researchers, lecturers and etc., and the suggestions and policy implications were directly focused on them. The researcher recommended for future researchers use a large sample, modify the model, and two or more independent variables other than these variables for eliminating limitations of the research.

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## **Corporate governance practices and capital structure decisions: The moderating effects of gender diversity**

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### **Introduction**

Corporate governance (CG) is the institutional framework that governs the division and exercise of power in a firm. In recent years, academics and practitioners have been focused on CG issues. Particularly, the impact of CG issues on primary investment and financing decisions made by managers and the resultant performance and valuation of firms (Wintoki, Linck, & Netter, 2012). Jensen and Meckling (1976) show that the use of debt capital as a governance mechanism can be reduced agency problems between managers and shareholders. The use of debt financing can increase firm value by reducing agency costs of equity since prevents dilution of equity ownership of insiders and provides additional monitoring from the debt holders. Agency theory also confirms that leverage indeed can be an effective CG mechanism to mitigate the agency problem between managers and shareholders by disciplining managers (Jensen 1986; Stulz, 1990).

In recent years, Women's participation in the labor force has been increasing in developed and developing countries (Zaid et al., 2020). However, participation by women on boards of directors is relatively low. In Sri Lanka, it is a highly debatable area in CG. Sri Lanka has a favorable gender ratio of more than 51%. However, women's engagement in elective democracy remains low. Women are found in decision-making positions in all sectors, but their representation remains around 5%. Many segments of the country's population, particularly women, rural populations, marginalized and vulnerable groups, do not participate in or are excluded from the electoral process, sometimes as a result of violence and unfair practices (UNDOC, 2022) In investors' view, effective boards and board gender diversity are predictors of a firm's future performance (Aman & Nguyen, 2013). Good CG mechanisms have often led to significant growth in the corporate sector and increased capital retention in the countries that have implemented CG mechanisms (Ahmed Sheikh & Wang, 2012). The extensive and in-depth literature on capital structure (CS) and CG indicates the integral part that these practices can play in determining corporate capital structure-related decisions. Most recent studies that have examined the CG and CS association have only looked at the direct relationship and have not taken into account the "moderating influence" of other dimensions. (Zaid, et al., 2020; Chin, Ganesan, Pitchay, Haron, & Hendayani, 2019). As a result, it is important to research areas that have previously been ignored by academics to gain fresh perspectives on the capital structure that go beyond the limited viewpoint.

Many academics have recently concentrated on evaluating the systematic relationship between CS decisions and CG practices. A recent study conducted by Ji, Mauer, and Zhang (2019) demonstrates that greater governance reduces top managers' incentives to choose the level of leverage. Additionally, the results show that diversification and CG interactions have a negative and statistically significant effect on financial leverage, suggesting that sophisticated governance reduces the amount of leverage in diversified firms. Azmi, Anwer, Mohamad, and Shah (2019) argue that better-governed enterprises carry less debt and face fewer agency problems in the US market, using a data set comprised of Dow Jones Islamic Index participants from 2006 to 2015. Fosberg (2004) found that organizations with CEO duality were successful in raising the proportion of debt in corporate CS. However, the data show a weak positive association.

As a result, it is worthwhile to investigate what has previously been overlooked by scholars to gain new insights on CS outside the narrow perspective. According to Alves, Couto, and Francisco (2015), additional study is needed to fully understand the complexities of the relationships between board size and CS in complex models. Furthermore, a vast amount of prior study has identified various drivers of capital structure. However, the vast bulk of research efforts have thus far been focused on examining the impact of firm-specific and tax-related characteristics, including but not limited to the effects of earnings volatility, non-debt tax shields, growth, industry categorization, size, and profitability on the optimal capital structure (Czerwonka & Jaworski, 2019). As a result, gender diversity is chosen as a moderator variable in the current study.

Several review studies exist today on corporate governance and gender diversity among board of directors, analyzing several aspects of the firm (Ahern & Dittmar, 2012; Ahmadi et al., 2018). For instance, applications of agency theories, barriers hindering the access of women to corporate boards, women participation in board control and decision-making, corporate value, technical efficiency of financial decisions, compensation differential, corporate social responsibility, etc. From an agency perspective, board gender diversity could lead to higher independence of directors and the balance between executive and non-executive directors on boards. Boards with high gender diversity could provide a better board monitoring function on behalf of the shareholders (Papangkorn, Chatjuthamard & Jiraporn). According to Zaid, Wang, Abuhijleh, Issa, Saleh, and Ali (2020), when there is a high level of gender diversity, board size and board independence are more positive, however the influence of CEO duality on the firm's leverage level changes from negative to positive. In other words, gender diversity reduces the impact of board structure on a company's financial decisions.

Altaf, Waseem, and Abbas (2021) investigate the relationship between CG characteristics and CS decisions using gender diversity as a moderating variable. According to the findings, the presence of gender diversity has a significant impact on the attributes of CG and financial structures. Based on the findings, the presence of gender diversity has a significant impact on the attributes of CG and financial

structures. Amin, Rehman, Ali and Mohd Said (2022) explore the effect of CG on CS along with the moderating effect of board gender diversity. The results of multiple regression analysis revealed that a larger, more independent board has a positive impact on firm leverage, however, the relationship between CEO duality and leverage was found to be negatively impacted. Additionally, researchers found that gender diversity has a positive impact on a firm's leverage and is associated with greater corporate governance quality.

According to the discussion above, an insufficient research study has been done so far on how CG practices impact a firm's CS. In addition, the current conclusions are still debatable, and there are still a few inadequately developed disputes. From Sri Lankan perspective, believe that this study is the first in literature, which analyzes the moderation impact of gender diversity on the linkage between CG practices and CS decisions. Thus, the study is conducted to determine "To what extent do CG practices impact CS decisions?" Therefore, the objective of the study is to examine the impact of CG practices on CS decisions with moderating effects of gender diversity of the listed companies in Sri Lanka.

## Methodology

The population has been defined in terms of the number of companies listed on the Colombo Stock Exchange (CSE) for the period from 2016 to 2020. In this period, 287 companies represented nineteen different sectors. Among 19 sectors, only 4 sectors consisting of 135 companies are considered as the population for the study. Sectors are selected based on the higher number of companies listed in each sector. Researchers select samples primarily based on their very own convenience, and researchers select samples for this look primarily based on the availability of information. The audited annual reports and the websites of the selected companies are used as the main secondary sources of data. Since both numerical and secondary data are used, the quantitative approach is employed to identify the results of the research study. In order to achieve the purpose of the research, panel data regression analysis, correlation analysis, and descriptive statistical methods are used. Panel regression model is employed to estimate the association between CG characteristics and CS decisions. It is applied to overcome the limitations of the ordinary least squares (OLS) parameters.

**Table 2: Summary of Sample**

No	Sector	No of companies in the population	No of companies in the sample
1	Capital Goods	29	29
2	Food, Beverage and Tobacco	47	22
3	Consumer Services	37	31
4	Materials	22	18
Total		135	100

*(Source: Developed by researcher)*

Based on the theoretical and empirical literature studies (Altaf, Waseem, & Abbas, 2021; Bedard, Chtourou, & Courteau, 2004; Zaid, et al., 2020), the subsequent hypotheses are formulated.

H<sub>1</sub> -There is a significant impact of board size on capital structure decisions of listed companies in Sri Lanka

H<sub>2</sub>- There is a significant impact of board composition on capital structure decisions of listed companies in Sri Lanka

H<sub>3</sub>- There is a significant impact of board gender diversity on capital structure decisions of listed companies in Sri Lanka

H<sub>4</sub>- There is a significant impact of CEO Duality on capital structure decisions of listed companies in Sri Lanka

H<sub>5</sub> - There is a significant impact of board meeting on capital structure decisions of listed companies in Sri Lanka

H<sub>6</sub>- There is a significant impact of audit committee on capital structure decisions of listed companies in Sri Lanka

H<sub>7a</sub>- Gender diversity creates a significant impact of Board size on capital structure decisions of listed companies in Sri Lanka

H<sub>7b</sub>- Gender diversity creates a significant impact of Board composition on capital structure decisions of listed companies in Sri Lanka

H<sub>7c</sub>- Gender diversity creates a significant impact of CEO Duality on capital structure decisions of listed companies in Sri Lanka

H<sub>7d</sub>- Gender diversity creates a significant impact of Board meeting on capital structure decisions of listed companies in Sri Lanka

H<sub>7e</sub>- Gender diversity creates a significant impact of Audit committee on capital structure decisions of listed companies in Sri Lanka

To examine the impact of CG practices on CS decisions, the following empirical model is used:

$$LDTA = \beta_0 + \beta_1 BSIZ + \beta_2 BCOM + \beta_3 BGD + \beta_4 CEOD + \beta_5 BMEET + \beta_6 ACOM + \beta_7 BSIZ \times BGD + \beta_8 BCOM \times BGD + \beta_9 CEO \times BGD + \beta_{10} BMEET \times BGD + \beta_{11} ACOM \times BGD + \beta_{12} FSIZ + \varepsilon$$

### ***Dependent variable***

CS decisions are considered the dependent variable of the study. It is measured based on long-term leverage (LDTA). The ratio of long-term debt to total assets is a measure of the company's assets that are financed by long-term debt (including loans or other liabilities) for more than one year.

### Explanatory variables

Corporate governance practices are the explanatory variable for this study, and the proxies for this variable are board size (BSIZ), board composition (BCOM), CEO duality (CEOD), board meeting (BMEET), and audit committee (ACOM). BSIZ denotes the number of directors on the board. BCOM is the proportion of the number of independent non-executive directors to the total number of directors on the board. CEOD is equal to one if the chairman also holds the position of CEO otherwise zero. BMEET is evaluated by the number of board meetings held per year. ACOM is evaluated by the number of members of the audit committee.

### Moderator variable

In evaluating the impact of CG practices on CS decisions, using both direct and indirect methodologies. In this sense, board gender diversity (BGD) has been investigated as a moderator variable in the analysis. It is measured as the proportion of women directors on the board.

### Control variables

Control variables eliminate model misspecification and take into account additional variables that could affect the firm's capital structure possibilities. Based on reviewing previous studies on the relationship between CG and CS, firm size (FS) is considered as the control variable of the study. FS is the natural logarithm of total assets in a firm.

### Empirical Findings

The collected data is presented using descriptive statistics. Correlation matrix describes the association between corporate governance practices and capital structure decisions. Furthermore, panel data regression analysis is employed to examine the hypotheses of the study.

**Table 3: Descriptive Statistics**

	Mean	Median	Maximum	Minimum	Std. Dev.
BSIZ	8.208	8.000	15.000	3.000	2.231
BCOM	0.395	0.400	1.000	0.182	0.109
BGD	0.082	0.071	0.667	0.000	0.105
CEOD	0.880	1.000	1.000	0.000	0.325
BMEET	5.268	4.000	14.000	2.000	2.797
ACOM	3.186	3.000	6.000	2.000	0.721
FSIZ	8.239	8.617	10.568	5.508	1.380
LDTA	0.061	0.013	0.458	0.000	0.091

(Source: Developed by researcher)

Table 2 shows the descriptive statistics of CS, CG characteristics, and firm variables. The 100 listed companies are drawn from a range of Capital Goods, Food, Beverage and Tobacco, Consumer Services, and Materials sectors. The average LDTA in the listed firms in Sri Lanka is 0.061 within the range between 0.458 and 0.000. BSIZ for the Sri Lankan selected firms' averaged 8 members among them 39.5% of directors

are independent. BGD ranges from 0 to 0.667 and the mean value is 0.082. CEOD has a mean value of 0.880. BMEET has a standard deviation of 2.797 with ranges from 2 to 14. The mean value of ACOM is 3.186, which ranges from 2 to 6. Firm size has a mean value of 8.239.

**Table 4: Correlation Analysis**

	BSIZ	BCOM	BGD	CEOD	BMEET	ACOM	FSIZ	LDTA
BSIZ	1.000							
	-----							
BCOM	-0.203	1.000						
	0.000	-----						
BGD	-0.022	-0.039	1.000					
	0.629	0.381	-----					
CEOD	0.068	0.101	-0.057	1.000				
	0.126	0.023	0.204	-----				
BMEET	0.265	0.050	-0.111	0.143	1.000			
	0.000	0.263	0.013	0.001	-----			
ACOM	0.040	-0.139	0.063	0.128	0.215	1.000		
	0.372	0.002	0.161	0.004	0.000	-----		
FSIZ	-0.050	0.096	0.236	0.027	0.101	-0.045	1.000000	
	0.266	0.032	0.000	0.547	0.025	0.317	-----	
LDTA	0.145	0.046	-0.142	0.177	0.292	-0.114	0.187	1.000
	0.001	0.305	0.001	0.000	0.000	0.010	0.000	-----

(Source: Developed by researcher)

Table 3 shows the Pearson correlation coefficient between CG practices and CS decisions of listed companies in Sri Lanka. According to the findings, the correlation coefficient between BSIZ and CS decisions is 0.145, which is significant at 0.05 levels; represents the positive association between BSIZ and CS decisions. Likewise, BCOM has a significant positive relationship with CS decision at 5% significant level ( $r= 0.046$ ;  $p< 005$ ). BGD has a weak negative relationship with CS decision, which is significant at 0.05 levels with a correlation coefficient of -0.142. The correlation coefficient between CEOD and CS decision is 0.177, which is significant at 0.05 levels. Hence, it represents the weak positive relationship between CEOD and CS decisions. BMEET also has a correlation coefficient of 0.292 at a significant level of 5%. Hence, it represents a weak positive relationship with CS decisions. The correlation coefficient between ACOM and CS decision is -0.114, which is significant at 0.05 levels. Hence, it represents the weak negative relationship between ACOM and CS decisions. FSIZ has a correlation coefficient of 0.187 with a probability of 0.000. Hence, it represents the weak positive relationship between CS decisions.

The findings of the study's panel regression analysis are presented in Table 4. According to the table, the probability of Hausman test is lower than the significant level at 0.05, thereby fixed effect model is most suitable for the analysis. Consequently, the results of the fixed effect model were taken into consideration for the following discussion. The adjusted coefficient of determination (adjusted R<sup>2</sup>) unveils that the explanatory variables in our empirical model explained approximately 73% of the variation in the dependent variable "long-term debt to assets ratio". The

overall p-value of F-test is statistically significant (13.058;  $p < 0.05$ ). Consequently, the econometric model fits the data better than the intercept-only model.

**Table 4: Regression coefficient for CS decisions**

	Pooled Ordinary Least Squares		Fixed effect		Random effect	
	Direct relationship	Indirect relationship	Direct relationship	Indirect relationship	Direct relationship	Indirect relationship
	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
<b>Main effects</b>						
Constant	-0.137***	-0.150***	-0.084	-0.117	-0.102**	-0.123**
BSIZ	0.003*	0.007***	0.003**	-0.004	0.001	0.001
BCOM	-0.011	0.040	0.085**	0.132**	0.072**	0.119***
BGD	-0.119**	-0.219	-0.012	0.900***	-0.078	0.181
CEOD	-0.049**	-0.073**	0.032**	-0.042	-0.037*	-0.037
BMEET	0.005***	0.032**	0.003	0.022***	0.004**	0.024***
ACOM	0.032***	0.002	0.011***	0.001	0.017***	0.003
<b>Moderated effects</b>						
BSIZ × BGD		-0.019		0.046		0.032
BCOM × BGD		-0.071		-0.128**		-0.098**
CEO × BGD		0.337**		-0.582**		-0.055
BMEET × BGD		0.042**		0.033		0.052***
ACOM × BGD		0.042		-0.171**		-0.133**
<b>Control variable</b>						
FSIZ	0.012***	0.012***	0.0104	0.009	0.011***	0.011**
R-squared	0.1857	0.2200	0.7747	0.7869	0.5669	0.8675
Adjusted R-squared	0.1741	0.2008	0.7146	0.7266	0.4327	0.7925
F-statistic	16.030	11.447	12.902	13.058	4.224	3.8552
Prob(F-statistic)	0.000	0.0000	0.0000	0.0000	0.0001	0.0000
Durbin Watson	0.866	0.903	1.821	1.896	1.570	1.609
Chi-Sq. Statistic	13.8912					
Prob. Chi-Square	0.0309					

(\* ,\*\*and \*\*\* statistically significant at 0.10, 0.05 and 0.01 levels)

In evaluating the model based on the results of the fixed effect regression model, the result shows that the BSIZ has a positive and statistically significant impact on CS decision ( $b = -0.003$ ,  $p < 0.05$ ). The finding implies that a greater board size resulted in a higher level of debt. We can accept the H1 as a result. According to the findings, organizations with large boards have a greater potential to raise financing from outside sources to optimize the firm's value. The finding is in line with the prior studies conducted by Mohammad Zaid et al. (2020) and Usman, Farooq, Zhang, Makki, and Khan (2019). Moving to board independence, the results divulge that the BCOM variable has a positive and statistically significant coefficient ( $b = 0.324$ ;  $p < 0.05$ ). This finding is supported by H2, which states that the higher the level of independent non-executive directors in the boardroom, the higher the degree of debt financing for firms. This finding is in line with the prior studies conducted by Zaid et al. (2020), and Amin et al. (2022). When exploring the impact of CEOD on CS decisions, it has a positive and significant coefficient ( $b = 0.032$ ;  $p < 0.05$ ) of the CEO duality variable. Therefore, H4 is accepted. This finding is in line with the prior studies conducted by Bajagai, Keshari, Bhetwal, Sah, and Jha, (2019). ACOM has a significant positive

impact on CS decisions ( $b=-0.011$ ,  $p < 0.05$ ). Hence, H6 is supported by finding. It is also in accordance with previous findings of Meah (2019).

Moving to the moderating effect, the results expose no significant effect of the interaction between gender diversity and board size ( $b=-0.046$ ,  $p > 0.05$ ). This denotes that when the proportion of females in the boardroom increases the effect of the board size on the firm's debt level will not be changed. Board independence unveils a negative coefficient, and significant influence of the interaction between board independence and gender diversity on firm leverage level ( $b=-0.128$ ,  $p < 0.05$ ). The impact of BCOM was turned from positive to negative. Therefore, H7b is supported by the finding. Therefore, the firm's financing decisions. Likewise, CEOD has a significant negative impact on the interaction between CEOD and gender diversity on firm leverage level ( $b = -0.582$ ,  $p < 0.05$ ). Hence, H7c is supported by finding. The impact of CEOD was turned from positive to negative. It points out that the Tenure of the CEO is adversely linked to leverage, as rooted CEOs desire little leverage to cut performance pressures. Further, ACOM has a significant negative impact on the interaction between ACOM and gender diversity on firm leverage level ( $b = -0.582$ ,  $p < 0.05$ ). Hence, H7e is supported by finding. The impact of ACOM was turned from positive to negative.

## Conclusion

This research study aspires to assess the impact of CG practices on CS decisions of the listed companies in Sri Lanka and how is this moderated by gender diversity. The regression analysis that was run between CG practices with CS decisions has been discussed; further moderation was tested with gender diversity. The direct effect was converted into an indirect effect between the BSIZ and CS decisions, which shows that board diversity moderates its relation. The board independence on debt creation creates a moderating effect and it can be concluded the firm will be affected by the gender diversity of the board members, which would affect the financial decisions of the company. The positive impact was converted into a negative effect between the division of duties between the CEO and chairman of a company, which shows that the presence of women on the board, moderates the relationship. Whereas the influence of ACOM on a firm's financing decisions changed from negative to positive. When the percentage of females on the board rises, the effect of ACOM turns from negative significant to positive significant

According to this study's assertion, which is in accordance with past research and is supported by the agency theoretical framework, the issue of gender diversity has important implications for the financing decisions of the listed firms in Sri Lanka. When interacting with a high level of gender diversity, board characteristics are more likely to have a significant impact on firms' capital structure. The study's conclusions include recommendations for improving monitoring processes and introducing and examining new methods that can help businesses draw in greater resources and create an optimal capital structure. It would also assist policymakers in various nations in



determining the sufficiency of available corporate governance reforms to improve capital structure management.

The study contains a number of limitations that could guide various future studies. The sample was selected from only four sectors. Future studies may use other sectors for their study. For future studies, the research should use many other attributes of corporate governance, which may be more useful in future research. The findings of this research can be conducted by selecting a portion of companies from four sectors. For generalizability, any future research could focus on a specific sector using the same model for a comparative study of developing countries to obtain different results. Further, they will use a longer period to have more samples and the results may be different.

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# **Corporate governance practices and its impact on the financial performance: evidence from listed diversified holdings companies in Sri Lanka**

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## **Introduction**

Corporations have become powerful and dominant institutions. They have reached to every corner of the globe in various sizes, capabilities, and influences. Their governance has influenced economies and various aspects of the social landscape. Shareholders are seen to be losing trust and market value has been tremendously affected. Moreover, with the emergence of globalization, there is greater decriminalization and less governmental control, which results in a greater need for accountability (Crane and Matten, 2007). Hence, Corporate Governance (CG) has become an important factor in managing organizations in the current global and complex environment.

CG is a term often used to describe the process and structures used to direct and manage a company's business activities to increase shareholders' value (Aryani et al., 2017). CG is no longer voluntary activity by companies in many developed and developing countries. Constant changes and events that are constantly emerging in all countries of the world have identified an increased number of companies to develop tools to implement CG principles in their business strategy and plans (Almashhadani & Almashhadani, 2022).

Firm Performance is the result of the efforts made by the company in maximizing its resources. Corporate performance is an essential requirement for an organization's survival and growth (Kakanda et al., 2016). The parameters often used by researchers to access firm performance are the financial aspects contained in the financial statements. Several other studies use Tobin Q to measure the company's financial performance in terms of the potential market value of the company (Shahwan, 2015; Afrifa & Taurigana, 2015; Al-Ahdal et al;2020).

Based on the above facts; this study focuses on whether CG practices affect the financial performance of Sri Lankan firms. It is a contribution to corporate governance research by offering new evidence association between CG and firms' financial performance in Sri Lankan firms. In par with this main research objective, the following specific objectives were developed.

- To examine the influence of Board size on financial performance.
- To study whether the Board composition influences the financial performance.

- To explore the influence of Board meetings on financial performance.
- To identify whether the Board committees influence financial performance.
- To examine whether Separate leadership influences financial performance.

When considering the performance gap of this research researcher tried to address number of key points such as reduce corporate failures through the identification of rational behind the Corporate Governance practices and the financial performance.

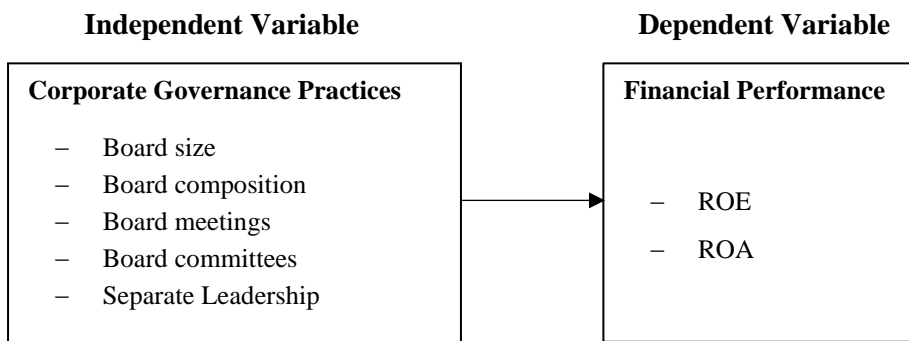
Researcher has identified following research questions to answer the research problem which related to every variable.

1. Is Board size effect to the financial performance?
2. Is there are any relationship between non - executive directors and financial performance?
3. Is Board meetings effect on the financial performance?
4. Is Board committees' effect to the financial performance?
5. Does the separate leadership impact on the financial performance?

## Methodology

The quantitative research approach is employed to find out the findings of the research study. Since secondary data used, quantitative approach is a suitable approach for the study. To test the research hypotheses, the inferential tests used include the Correlation analysis and Regression analysis. In the research, preliminary analysis of the data was carried out from the year 2016 to 2020. The target population is all the Diversified Holdings companies in Sri Lanka. The sample size is 20. At this stage firms with missing information were excluded from the study to test the relationships suggested in the hypotheses stated in the conceptual framework, the SPSS statistical was employed. There are only 20 diversified companies listed in Sri Lanka, researcher used each 20 companies as a sample.

Following concepts or the variables are used to describe the impact of corporate governance practices on financial performance.



**Figure 1: Conceptual Framework**

*Source: Author Constructed, 2022*

Evidence required to test the hypotheses in this study is based data analysis on annual reports. Therefore, data derived for this study is from secondary sources. This study is based on quantitative techniques in order to find the impact of CG practices on financial performance. The hypotheses were derived first, and the data were collected later to confirm the propositions.

The hypothesis of this research is,

- H1: There is a significant impact of Corporate Governance practices on the ROE
- H2: There is a significant impact of Corporate Governance practices on the ROA

The following model was used to test afore said Hypotheses as follows,

$$\text{ROE} = \beta_0 + \beta_1\text{BODSIZE} + \beta_2 \text{BCOMP} + \beta_3 \text{BM} + \beta_4 \text{COMM} + \beta_5 \text{LDS} + \varepsilon \text{ (A)}$$

$$\text{ROA} = \beta_0 + \beta_1\text{BODSIZE} + \beta_2 \text{BCOMP} + \beta_3 \text{BM} + \beta_4 \text{COMM} + \beta_5 \text{LDS} + \varepsilon \text{ (B)}$$

$\beta_0$  = Intercept, BODSIZE = Board Size, BCOMP = Board Composition, BM = Board Meetings, COMM = Board Committees, LDS = Separate Leadership,  $\varepsilon$  = Standard Error of the sample

## Findings

**Table 1: Results of Correlations**

	ROE	ROA	BZ	BCOMP	BM	BC	SL
ROE	1						
ROA	.881**	1					
BZ	-0.048	-0.163	1				
BCOMP	-0.127	-.243*	.378**	1			
BM	-0.035	-0.064	.540**	.227*	1		
BCOMP	-0.079	-0.110	.302**	0.183	.476**	1	
SL	0.185	.247*	-.322**	-.396**	-.303**	-0.185	1

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

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

*Source: SPSS output obtains from collected data*

Correlation analysis given in Table 01, shows a weak negative relationship between Board Size and the ROE at the (-0.048) level under the 2016- 2020 years. Also, can be seen a negative relationship between the Board Size and the ROA at the (-0.163) level under the 2016 – 2020 years. However, these relationships are not at a significant level.

Board Composition and Board Meetings Board Committees also have shown a negative relationship with ROE from 2016 to 2020 at 0.127, 0.035, and 0.079 respectively. and however, according to tables of correlation analysis, there is a

positive relationship between Separate leadership with ROE from the 2016 to 2020 years.

Also, tables of correlation show there is a negative relationship between Board Composition, Board Meetings, and Board Committees with ROA from 2016 to 2020 years. But Separate Leadership shows a positive relationship with ROA from 2016 to 2020.

However, these all-relationship levels are not significant.

**Table 2.: Coefficients**

	<b>Model</b>	<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>		
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t</b>	<b>Sig.</b>
1	(Constant)	-0.068	0.104		-0.654	0.515
	Board Size	0.018	0.038	0.067	0.472	0.638
	Board Composition	0.066	0.044	0.184	1.489	0.141
	Board Meetings	-0.007	0.007	-0.169	-1.091	0.279
	Board Committees	0.033	0.027	0.159	1.208	0.231
	Separate Leadership	0.018	0.033	0.066	0.534	0.595

*a. Dependent Variable: Return on Equity*

*Source: SPSS output obtains from collected data*

The regression results in table-02, show that Board Size has a positive relationship with ROE which is insignificant. Also, there is a positive insignificant relationship between Board Composition and ROE. Further, an insignificant relationship is found between the Board Meetings and ROE. Board Meetings negatively affect the firm financial position and the coefficient of the Board meeting was -0.007.

Board Committees and Separate Leadership indicated a positive relationship with ROE. The coefficient of Board Committees and Separate Leadership was 0.033 and 0.018 respectively. And the probability of Board Committees and Separate Leadership was 0.231 and 0.595 respectively. This implies that both Board Committees and Separate Leadership insignificantly affects ROE.

Therefore, overall results have described that there is no significant relationship between Corporate Governance practices and ROE. Therefore, the null hypothesis is accepted and H1 is rejected.

The data in Table 3 show that the probability is 0.472 which is higher than 0.05 for the ROA. That indicates there is an insignificant relationship between the Board Meetings and ROA. Board Meetings negatively affect the firm financial position and the coefficient of Board Meetings was -0.001. Board Committees and Separate Leadership is indicated a positive relationship with ROA. The coefficient of Board

Committees and Separate Leadership was 0.010 and 0.006 respectively. And the probability of Board Committees and Separate Leadership was 0.215 and 0.529 respectively. This implies that both Board Committees and Separate Leadership insignificantly affect ROA. In regards to these same results found by Danoshana and Ravivathani in 2014 (Danoshana et al., 2013).

**Table.3: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-0.011	0.030		-0.356	0.723
Board Size	-0.005	0.011	-0.068	-0.472	0.639
Board Composition	0.013	0.013	0.131	1.055	0.295
Board Meetings	-0.001	0.002	-0.112	-0.722	0.472
Board Committees	0.010	0.008	0.166	1.252	0.215
Separate Leadership	0.006	0.010	0.078	0.633	0.529

*a. Dependent Variable: Return on Assets*

*Source: SPSS output obtains from collected data*

This has described that there is no significant relationship between ROA and Corporate Governance. Therefore, the null hypothesis is accepted and H2 is rejected.

## Conclusion

In conclusion, the empirical findings suggest Board size, Board composition, Board meetings, Board committees, and Separate leadership does not impact on firm financial performance of Diversified Holdings companies listed on the CSE. Overall, the findings suggest that despite the importance of good corporate governance practices, firm performance when defined by ROA and ROE is not primarily dependent on Board size, Board composition, Board meetings, Board committees, and Separate leadership as no significant relationship was found on two regression equations.

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## **Does familial or individual largest shareholder deteriorate firm value?**

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### **Introduction**

The term corporate governance was first introduced in 1980s. Owing to major corporate scandals took place all over the world, good practices of corporate governance were formed in the form codes. Cadbury and Greenbury committees in the UK were the driving forces of the evolution of such corporate governance practices. From time to time, scholars pay attention towards the conflicts of interest between different stakeholder groups. Several corporate governance mechanisms are implemented to solve such conflicts of interest and ultimately, to reduce the associated costs. Ownership structure plays a vital role in reducing agency conflicts to the extent that corporate monitoring attached to the ownership.

Recent empirical research show that founding-family ownership is connected with higher corporate performance in terms of both accounting performance and market valuation, when compared to widely-held companies. Berle and Means (1932) discuss that corporate governance is a mechanism of diffusion in the share capital possession of current organizations and had a separate ownership from control, and it is the method by which firms are overseen and regulated. The arguments of agency theory lie at the heart of mainstream corporate governance frameworks (Berle and Means, 1932; Jensen and Meckling, 1976; Fama and Jensen, 1983). It explains the conflict between inside owners and outside parties of the firm. As per Jensen and Meckling (1976), the model on agency costs and ownership structure plays a key role. Also, even if there is no evident principal-agent relationship, agency costs emerge in any situation that involves joint effort by two or more persons.

The arguments of the agency theory were augmented by Demsetz (1983) who concludes that a firm's ownership structure should be viewed as an endogenous result of actions that reflect shareholder involvement. Accordingly, there should not be a systematic relationship between changes in ownership structure and changes in corporate performance. Large shareholders in concentrated ownership firms hold a significant number of shares in order to increase the value of their holdings (Li, Wang, and Deng, 2008). Alternatively, if large owners utilize their control rights to gain personal gain, performance may decrease (Shleifer and Vishny, 1986). Owners of legal entities are more driven to make profits and have access to information, and also they may perform better (La Porta, Florencio, and Shleifer, 1999).

Asian economies encounter the typical agency problem between large shareholders and minority shareholders (Claessens and Fan, 2002). Similarly, ownership structure

of Sri Lankan firms is highly concentrated in the hands of a few individuals, families, or corporate groupings who usually enjoy control rights exceeding cash flow rights. Usually, control is exercised in business groups through control pyramids or intermediate private firms (Mapitiya et al., 2015). Therefore, it can be believed that large shareholders may expropriate corporate resources to maximize their own benefits at the cost of minority shareholders. This can particularly be applicable when large shareholders unnecessarily interfere to managerial actions. In Sri Lanka, the empirical literature often focuses on the classical agency problem between managers and shareholders and how it deteriorates corporate performance (e.g. Manawaduge and Zoysa, 2013). In this research, we strive to apply a novel approach to examine expropriating behavior of large shareholders at the cost of minority shareholders. Therefore, the objective of this study is to examine the impact of ownership concentration to families or individuals on corporate performance.

## Methodology

The sample consists of 130 non-financial firms listed in the Colombo Stock Exchange. Data is collected as longitudinal data for seven years from the year 2013. The panel data window ultimately creates 910 firm-year observations. We consider the largest shareholder as the independent variable of the study, a binary variable that takes value 1 if a largest shareholder is individual or family, and 0 otherwise. Corporate performance is the dependent variable which is proxied by Tobin's Q and return on assets. Besides, study uses corporate governance mechanisms such as auditor of the company (dummy variable equals to 1 if the auditor belongs to big-4 audit firm), board size, and board independence (proportion of independent non-executive directors) as interaction terms on the relationship between largest shareholder and corporate performance. Firm size (natural logarithm of total assets), financial leverage (ratio of the book value of total liabilities to total assets), CEO duality, and firm age are used as control variables which are supposed to influence corporate performance. Results are generated through correlation analysis, and panel regression analysis with interaction terms.

## Findings

**Table 1. Descriptive Statistics**

Variable	Obs.	Mean	S.D.	Min.	Max.
Largest shareholder (dummy)	910	0.081	0.274	0.000	1.000
Big-4 auditor (dummy)	910	0.904	0.294	0.000	1.000
Board size (number)	910	8.047	2.039	3.000	14.000
Board independence (ratio)	910	0.389	0.113	0.111	0.875
Firm size (number)	910	3.089	0.055	2.917	3.217
Financial leverage (ratio)	910	0.355	0.274	0.000	1.774
CEO duality (dummy)	910	0.236	0.236	0.000	1.000
Firm age (number)	910	3.117	0.716	0.000	4.511
Tobin's Q (ratio)	910	1.347	1.598	0.141	19.272
Return on assets (ratio)	910	0.094	0.272	-1.618	4.162

*Source: Authors' Own, 2022*

Table 1 shows that family or individual largest shareholder occurs at 8% of firms in the sample. The audit of more than 90% of firms is carried out by one of the big-4 auditors. Though an average board consists of eight directors, it comprises nearly 40% of independent non-executive directors. Around in one-fourth of firms, the CEO is also holding the board chair position. The sample firms are less likely to be financially leveraged (about 35%). Return on assets and Tobin's Q of an average firm amounts to 9% and 1.35, respectively.

**Table 2. Correlation Matrix**

	1	2	3	4	5	6	7	8	9	10
Larg. Sha.	1.00									
Auditor	0.02	1.00								
Boar. Siz.	0.08	-0.02	1.00							
Boar. Ind.	0.06	-0.07	-0.12	1.00						
Firm Size	0.01	-0.04	0.22	-0.07	1.00					
Fin. Leve.	-0.11	0.20	0.13	-0.14	0.25	1.00				
CEO Dua.	0.07	0.01	-0.01	0.01	0.06	0.15	1.00			
Firm Age	-0.05	-0.10	0.02	-0.03	-0.01	-0.05	-0.15	1.00		
Tobin's Q	-0.06	0.03	-0.06	-0.06	-0.02	0.00	-0.07	0.15	1.00	
ROA	0.08	-0.04	-0.06	0.03	-0.04	-0.03	-0.07	0.06	0.31	1.00

Source: Authors' Own, 2022

**Table 3. Panel Regressions**

	Dependent variable			
	Tobin's Q		Return on Assets	
	(1)	(2)	(3)	(4)
Largest shareholder	-0.131 (0.126)	-0.368*** (0.099)	0.023 (0.079)	0.087 (0.070)
Firm size	-2.902 (4.119)	-3.195* (1.662)	-0.669 (2.221)	-0.177 (0.271)
Firm age	-0.574 (0.478)	0.5144*** (0.119)	-0.025 (0.050)	0.017 (0.012)
Financial leverage	0.229 (0.283)	0.079 (0.211)	-0.045 (0.084)	-0.033 (0.027)
CEO duality	-0.024 (0.094)	-0.135* (0.080)	-0.190 (0.150)	-0.059*** (0.017)
Constant	11.979 (12.563)	10.607** (5.280)	2.264 (6.798)	0.645 (0.844)
Year dummy	yes	yes	yes	yes
Industry dummy	no	yes	no	yes
R <sup>2</sup>	0.0113	0.1181	0.0181	0.0627
Prob> F	0.0000	0.0000	0.0000	0.0000
Groups	130	130	130	130
Obs.	960	960	960	960

Source: Authors' Own, 2022

In Table 2, we show how familial or individual largest shareholder, and other corporate governance and firm-specific characteristics correlate with corporate

performance. While the familial or individual largest shareholder positively relates to accounting performance (ROA), it is negatively related to market-based performance measure (Tobin's Q). In terms of accounting performance, an opposite relation is observed on the presence of big-4 auditors. Large boards, boards dominated by a unitary leader as well as large firms seem deteriorating corporate performance. Mature firms, however, show higher performance than younger ones.

Table 3 exhibits panel regression results against Tobin's Q and return on assets. In models (1) and (2), familial or individual largest shareholder negatively impacts on Tobin's Q, but ROA carries positive insignificant coefficients. In relation to East Asia, Claessens et al. (1999) observe a negative association between concentrated control rights and share price valuation. Over all models, large firms generate lower corporate performance while mature firms earn higher market returns (model (2)). Unitary leadership structure deteriorates both market performance (model (2)) as well as accounting return (4)). In Table 4, we implement a robustness analysis where familial or individual largest shareholder is allowed to interact with some firm and board characteristics. Accordingly, the negative impact of familial or individual largest shareholder on corporate performance disappears on the presence of one of the big-4 auditor (model (1)) and of independent boards (model (4)).

**Table 4. Panel Regressions (Interactions)**

	Dependent Variable					
	Tob. Q (1)	ROA (2)	Tob. Q (3)	ROA (4)	Tob. Q (5)	ROA (6)
Larg. Sha.	-0.791***	0.006	-0.772**	-0.330*	-0.172	0.319
Auditor	-0.149	-0.057				
Aud. Com.						
Boar. Ind.			-0.550	-0.058		
Boar. Siz.					-0.069**	-0.007**
Larg.Sha.*Auditor	0.353*	0.083				
Larg. Sha.* Boar.Ind.			0.764	0.979*		
Larg. Sha.*Boar.Siz.					0.030	-0.027
Firm Size	-0.164**	-0.007	-0.166**	-0.004	-0.152**	-0.006
Firm Age	0.038***	0.002**	0.037***	0.002**	0.038***	0.002**
Fin. Leve.	0.113	-0.039	0.097	-0.038	0.188	-0.023
CEO Dua.	-0.184	-0.062***	-0.183**	-0.063***	-0.175**	-0.058***
Intercept	5.246	0.330	10.657	0.221	5.262***	0.282
Industry dummy	yes	yes	yes	yes	yes	yes
R <sup>2</sup>	0.1650	0.070	0.1654	0.0845	0.1712	0.0734
Prob> F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Obs.	910	910	910	910	910	910

*Source: Authors' Own, 2022*

## Conclusion

This study investigated the impact of ownership concentration to the family or individuals on corporate performance of a sample of listed firms in Sri Lanka. We conclude that the presence of the largest familial or individual shareholder deteriorates

market-based performance, but not accounting-based performance. These results are more valid when we capture industry-wise differences. Inferior market performance could be due to the fact that concentrated ownership to families or individual could worsen market liquidity. Remarkably, negative market outcomes of such large shareholders seem to be mitigated on the presence of one of the big-4 auditors and of an independent board. We propose that firms with concentrated ownership to families and individuals would not be attractive for growth investors as they expect to earn a higher return through more liquid stocks. Such concentrated owners may also expropriate corporate resources at the cost of minority shareholders, which could be an agenda for future research.

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## **Ownership level, ownership concentration and stock liquidity: Sri Lankan evidence**

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### **Introduction**

In this analysis, we look into how current ownership level and ownership concentration affect liquidity. The effect of information asymmetry on the liquidity of stocks is also examined. Particularly, the methods by which an insider acquires and holds shares in a firm. Overall, it is important to concentrate on the role that ownership structure plays in influencing stock liquidity and investor sentiment in the Sri Lankan stock market.

Most of the liquidity -ownership relation is driven by institutional ownership and not by insider ownership. Institutional holdings are positively correlated with liquidity compared with other investors (Rubin, 2007). The largest shareholders are involved in monitoring of a company and make their investment with two objectives; capital gain on their shares, and trading on private information in the public market. Institutional investors may have better information than individual investors. Insider and institutional investors create information asymmetry over individuals because they are much aware than individuals (Chiang and Venkatesh, 1988). Higher insider and institutional ownerships have higher informativeness of trades. There is more informed trading for stocks with higher institutional and insider ownership, and market makers believe that insider and institutional investors are informed traders (Zhou, 2011).

Owners can control and influence the management of the firm to protect their interests. Ownership concentration is the key to corporate governance as the separation of ownership and control can create agency conflicts. According to Rubin (2007), total institutional holdings are positively related to liquidity, but institutional block holdings are negatively associated with liquidity. In Sri Lanka, institutional block holders may have greater information compared to individual investors as they may hold many board seats. With an increasing number of institutional investors, less publicly available information can motivate them to acquire more information and to execute profitable trading (Diamond, 1985).

With high ownership concentration, the protection of minority shareholders' rights is a corporate governance issue. Controlling shareholders can direct market manipulations and misappropriate corporate resources at the cost of minority shareholders. Market liquidity helps to allocate financial resources efficiently that grabs the attention of the main cause of market imperfections (Ahmad, 2021).

Increased stock market liquidity improves the efficiency of stock valuation and consequently, helps to improve the value of a firm. Institutional block holdings are negatively related to stock liquidity while institutional non-block holdings are positively associated with stock liquidity (Thi, 2021). This suggests that the positive effect of institutional ownership on liquidity is mainly driven by non-block institutional ownership.

The liquidity-ownership relation can be mostly driven by institutional ownership rather than insider ownership. Insider ownership is negatively correlated with liquidity after controlling for price, volatility, trading volume, and market capitalization (Zhou, 2011). However, a stock with higher institutional ownership or a larger number of financial analysts has better liquidity position (Zhou, 2011). They also find that institutional ownership is positively correlated with stock liquidity. The extent of informed trading by institutional investors is significantly higher in countries with greater informational opacity and weaker corporate governance (Rubin, 2007).

According to Hamon (2011), measures of liquidity are divided into trade-based measures and order-based measures to capture transaction costs. Trade-based measures include the logarithm of number of trades and the logarithm of relative turnover. High block holders' ownership can decrease stock liquidity resulting agency problems between controlling and minority shareholders (Wang, 2022). Liquidity tends to increase with institutional ownership levels but liquidity tends to decrease with institutional ownership concentration. As a result, study finds that insider ownership is negatively correlated with trade-driven measures of liquidity, but positive with some order-driven measures of liquidity.

## Methodology

This study focuses on the ownership level, ownership concentration, and market liquidity of listed companies in Sri Lanka. The population consists of 285 firms listed as at 2021 out of which 119 companies are chosen as the sample. Data is prepared in a panel data window for five years from 2015 to 2019. Data is collected from secondary data sources particularly through companies' annual reports. We use market liquidity (Liquid.) as the dependent variable of the study which is proxied by share volume (Volume) and turnover (Turnov.). We use a set of independent variables in relation to ownership level and ownership concentration: directors' ownership (Direct. Own.), institutional ownership (Insti. Own.), ownership of largest shareholders (Own. Larg. Share.), insider blockholding (Insid. Block.), institutional blockholding (Insti. Block.), and largest block ownership (Larg. Block Own.). We also control for some firm-specific variables that can potentially influence market liquidity, consisting market value (Mark. Value), share price, volatility (Volati.), book to market value (Book to Mark.), and firm size. Accordingly, following regression model is proposed for this empirical analysis.

$$Liquid_{it} = \beta_0 + \beta_1 Direct.Own_{it} + \beta_2 Insti.Own_{it} + \beta_3 Own.Larg.Share_{it} + \beta_4 Insid.Block_{it} + \beta_5 Insti.Block_{it} + \beta_6 Larg.Block.Own_{it} + \beta_7 Mark.Value_{it} + \beta_8 Share Price_{it} + \beta_9 Volati_{it} + \beta_{10} Book to Mark_{it} + \beta_{11} Firm Size_{it} + U_{it}$$

## Discussion

### *Descriptive Analysis*

Table 1 shows that 35% of shares are traded from all outstanding shares while natural logarithm of turnover of shares amounts to 16.68. Directors' shareholding and institutional ownership are 16.7% and 73% on average, respectively. The ownership of the largest shareholder is reported at 53%. Directors' ownership amounting to more than 10% is overserved in 55% of all observations. Financial institutions and pension funds with more than 5% equity ownership exhibit in 96% of cases. Largest block ownership (more than 25%) is present at 89% of sample firms.

**Table 1: Descriptive Statistics**

Variable	Obs.	Mean	Std. Dev.	Min	Max
Share volume	595	0.354	3.361	0	61.747
Turnover	595	16.683	5.687	0	24.661
DO	595	0.167	1.020	0	15.701
IO	595	0.730	0.268	0	1
OLS	595	0.526	0.221	0	0.999
IB	595	0.553	0.497	0	1
INB	595	0.965	0.185	0	1
LBO	595	0.892	0.310	0	1
MV	595	20.822	2.560	0	26.123
SP	595	3.604	1.648	-0.511	7.937
VOL	595	2.670	7.393	0	81.434
BM	595	1.438	1.219	-2.013	9.766
FM	595	22.097	1.419	12.684	25.745

*Sources: Authors' Own*

### *Correlation Analysis*

**Table 2. Correlation Matrix**

	1	2	3	4	5	6	7	8
Volume	1							
Turnov.	0.047	1						
Direct. Own	0.350	-0.011	1					
Insti. Own.	-0.004	-0.072	-0.079	1				
Own. Larg. Share.	-0.042	-0.081	-0.023	0.238	1			
Insid. Block.	0.066	0.024	0.147	-0.256	-0.350	1		
Insti. Block.	0.018	0.048	-0.030	0.491	0.064	-0.062	1	
Larg. Block. Own.	0.010	-0.081	0.016	0.208	0.594	-0.192	0.081	1

We show in table 2 that market liquidity measured by share volume is positively related to directors' ownership, their block ownership, institutional block holding, and largest block ownership. Directors' block ownership, and institutional block holding also display the same positive sign with share turnover. Share volume is negatively correlated with institutional ownership and ownership of the largest shareholder.



Market liquidity in terms of share turnover is likely hindered by directors' ownership, institutional ownership, ownership of the largest shareholder, and the largest block ownership.

### ***Regression Analysis***

We report regression results in Table 3 respectively for share volume (model 1) and share turnover (model 2) while controlling for time-fixed effect and industry-fixed effect. Accordingly, model (1) shows that directors' ownership positively and significantly explains the variation of market liquidity, and it is negative in relation to ownership of the largest shareholder. Model (2) exhibits that institutional ownership is negatively and significantly related to market liquidity. While market value of firms stimulates market liquidity, volatile stocks are less likely attract investors. More liquid stocks, of course, belong to large firms.

**Table 2. Regressions**

<b>Dependent Variable</b>	<b>Share Volume (SV)</b>	<b>Turnover (TO)</b>
<b>Independent Variable</b>		
DO	1.080** (0.547)	0.992 (0.189)
IO	0.649 (0.559)	-0.218** (0.977)
OLS	-0.926* (0.504)	-0.200 (1.304)
IB	0.143 (0.313)	-0.169 (0.464)
INB	-0.047 (0.450)	0.834 (1.559)
LBO	0.132 (0.235)	-0.797 (0.779)
MV	-0.215 (0.138)	0.163* (0.863)
SP	-0.053 (0.045)	0.131 (0.158)
VOL	0.006 (0.007)	-0.071** (0.030)
BM	-0.122 (0.108)	-0.008 (0.183)
FM	0.182 (0.129)	0.861*** 0.166
CONSTANT	1.800 0.919	0.248 3.906
Year-effect	Yes	Yes
Industry-effect	Yes	Yes
R- Square	0.1748	0.453
Prob > Chi2	0.000	0.000
No. of Groups	119	119
No. of Observations	595	595

## Conclusion

The researchers conducted an empirical study of the ownership–liquidity relation of listed companies in Sri Lanka. Sri Lanka is a developing country; capital market growth is very low in comparison with a developed country. And also, the market experiences high stock market problems due to high information asymmetric in comparison with a developed country. We show the regression results for share volume (model 1) and share turnover (model 2), with both the time-fixed impact and the industry-fixed effect taken into account. Accordingly, model (1) demonstrates that the ownership of directors negatively correlates with the ownership of the largest shareholder, providing a positive explanatory power for the observed variation in market liquidity. Institutional ownership is shown to have a considerable and negative impact on market liquidity in model (2). Despite the fact that rising company valuations boost market liquidity, investors tend to stay away from highly speculative stocks.

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## **The impact of corporate governance on the corporate investment decision**

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### **Introduction**

Corporate governance seems to be the framework that will be used to control and oversee the company's business activities in order to increase business wealth and accountability with the ultimate goal of capturing shareholder value in the long term while also considering the interests of other stakeholders (Nazar, 2021). The corporate governance framework helps provide light on behaviour of firms and decisions including investment decisions (Antonio & Celina, 2011). The degree to which ownership and control are separated affects investment decisions (Grabowski & Mueller, 1972).

With the growing interest, many researchers are induced to undertake empirical investigations on firms' corporate governance and investment decisions. According to Nazar (2021), company investment decisions are influenced by management ownership, CEO duality, and board independence. Antonio & Celina (2011) emphasise that the separation of ownership and management may lead to better investment decisions among manufacturing firms. Furthermore, Gill et al. (2012) revealed that the investment decisions of small businesses in India were influenced by factors such as CEO tenure, CEO duality, board size, total assets, and business performance. According to Hutchinson (2002), there is a significant positive relationship between capital expenditure and the separation of the positions of CEO and chairman for Australian enterprises. Chen et al. (2009) reach the same conclusion that the positions of CEOs will have a positive impact on investment decisions.

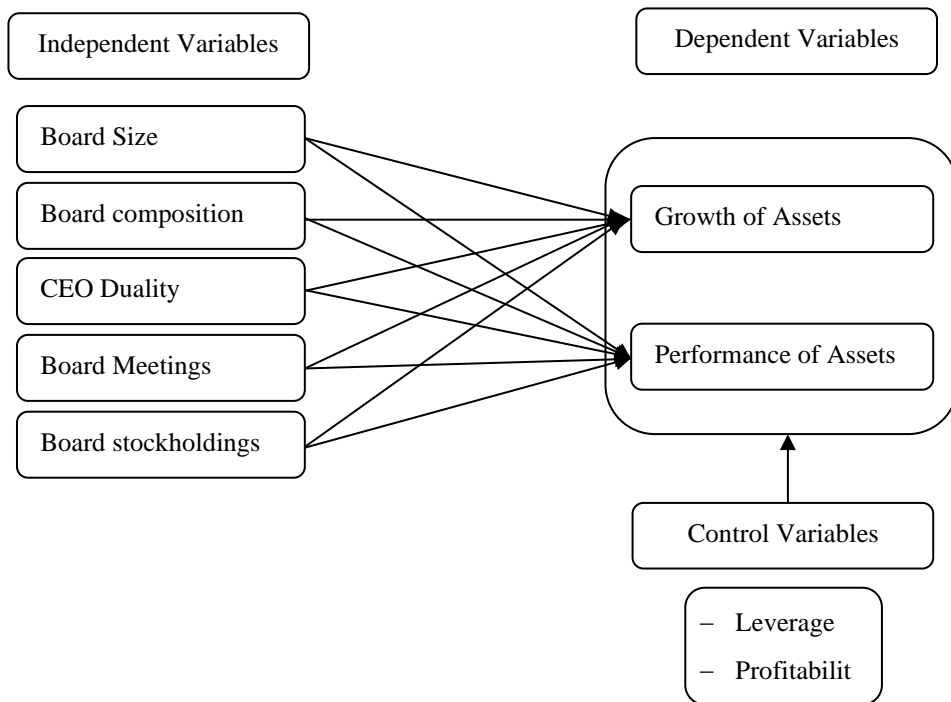
The primary objective of this study is to investigate the effect of corporate governance elements in influencing investment decisions for firms listed in Sri Lanka. This study adds to the literature on the impact of corporate governance on the firm's investment decision by concentrating on listed companies in Sri Lanka, where relatively limited research has been undertaken on the same topic. In addition, the association between the Board Size, Board composition, CEO duality, Board Meetings, Board stockholdings, and investment choice is examined to confirm the conclusions of earlier researchers.

### **Methodology**

The data for the study are from annual reports of listed companies in the Colombo Stock Exchange (CSE) from 2017 to 2021. The population of the study consists of 287 listed companies on the CSE as of 31st August 2021. As the final sample, 50 listed

firms were selected based on the availability and completeness of data from 2017 to 2021. The data was analyzed using the panel data regression approach.

Referring to the past literature (Cadbury, 2004; Yermack, 1996; Kang & Zardkoohi; 2005; Vafeas, 1999; Holthausen & Larcker, 1999; Maiyo, 2013; Griffin & Mahon, 1997), the variables were identified, and the conceptual framework was developed as shown by Figure 1.



**Figure 1. Conceptual Framework**

The growth of assets is measured through the change of fixed assets between the current year and the previous year divided by the fixed assets of the previous year, while the performance of assets is measured through the investment index. Board size is indicated through the number of board directors on the board, and the board composition is measured through the number of executive and non-executive directors. CEO duality is indicated by assigning 1 when the CEO is not the chairman and 0 when the CEO is also the chairman. Board stockholding is measured through the percentage of shares owned by the board of directors.

The hypotheses and the research model are developed based on a theoretical framework and literature review.

H1: There is an impact of board size on the growth of assets of firms listed in CSE.

- H2: There is an impact of board composition on the growth of assets of firms listed in CSE.
- H3: There is an impact of CEO duality on the growth of assets of firms listed in CSE.
- H4: There is an impact of board meetings on the growth of assets of firms listed in CSE.
- H5: There is an impact of board stockholdings on the growth of assets of firms listed in CSE.
- H6: There is an impact of board size on the performance of assets of firms listed in CSE.
- H7: There is an impact of board composition on the performance of assets of firms listed in CSE.
- H8: There is an impact of CEO duality on the performance of assets of firms listed in CSE.
- H9: There is an impact of board meetings on the performance of assets of firms listed in CSE.
- H10: There is an impact of board stockholdings on the performance of assets of firms listed in CSE.

### **Research Models:**

$$GA = \beta_0 + \beta_1 BS + \beta_2 BC + \beta_3 CEO + \beta_4 BM + \beta_5 BSH + \beta_6 LEV + \beta_7 PRF + \varepsilon \text{ -----(1)}$$

$$PA = \beta_0 + \beta_1 BS + \beta_2 BC + \beta_3 CEO + \beta_4 BM + \beta_5 BSH + \beta_6 LEV + \beta_7 PRF + \varepsilon \text{ -----(2)}$$

Where; GA = Growth of assets, PA = Performance of assets, BS = Board size, BC = Board composition, CEO = CEO duality, BM = Board meetings, BSH = Board stockholdings, LEV = Leverage, PRF = Profitability,  $\beta_0 - \beta_7$  = Coefficients,  $\beta_0$  = Constant,  $\varepsilon$  = Error term

### **Findings**

Through the outcome of correlation analysis, it was proved that there are no multicollinearity issues among the variables. To select between the fixed effect model and the random effect model, the Hausman test was conducted, and the fixed effect models were indicated as the most appropriate model to interpret the data set. The values of F-statistics (Model 1 = 7.613, p-value<0.01, Model 2 = 137.174, p-value<0.01) indicate that the evidence provided by the sample data is adequate to prove that the regression models fit the data better. The results of the regression analysis is shown in Table 1.

**Table 1. Regression Results for Model 1 and Model 2**

	Model 1			Model 2		
	Growth of Assets			Performance of Assets		
	B	t	Sig.	B	t	Sig.
(Constant)	0.615***	9.363	0.000	1.013***	17.343	0.000
Board Size	0.016***	3.397	0.001	0.007**	1.680	0.044
Board Composition	0.233***	4.733	0.000	-0.058**	-1.314	0.040
CEO Duality	-0.002	-0.074	0.941	0.034**	1.732	0.034
Board Meetings	-0.006**	-1.670	0.046	-0.001**	-0.230	0.018
Board Stockholding	0.001**	2.223	0.027	-0.001**	-1.400	0.032
Leverage	0.103***	3.688	0.000	-0.737***	-29.632	0.000
Profitability	0.013***	3.366	0.001	-0.001	-0.381	0.703

Based on the outcome of regression analysis, the research models are estimated as follows.

$$GA = 0.615 + 0.016 BS + 0.233 BC - 0.002 CEO - 0.006 BM + 0.001 BSH + 0.103 LEV + 0.013 PRF$$

$$PA = 1.013 + 0.007 BS - 0.058 BC + 0.034 CEO - 0.001 BM - 0.001 BSH - 0.737 LEV - 0.001 PRF$$

The regression results indicate that the board size, board composition, board meetings, and board stockholding are the significant determinants of the growth of assets indicating that  $H_1$ ,  $H_2$ ,  $H_4$ , and  $H_5$  are accepted. On the other hand, the board size, board composition, CEO duality, board meetings and board stockholding affect significantly the performance of assets demonstrating that  $H_6$ ,  $H_7$ ,  $H_8$ ,  $H_9$  and  $H_{10}$  are accepted. Accordingly, when the board size is higher, the growth and the performance of assets would be higher. The higher the board consists of non-executive directors, the growth of assets would be higher while the performance of assets would be lower. CEO duality increases the performance of assets while the increase in the number of board meetings results in a decrease of the growth and performance of assets. When the percentage of stockholdings by the board has increased the growth of the assets would be increased whereas the performance of assets would be decreased. Overall results emphasize that the board characteristics affect the corporate investment decision.

When considering the control variables, leverage and profitability have a positive significant impact on the growth of fixed assets. However, only leverage has a negative significant impact on the performance of assets.

## Conclusion

The study was conducted to investigate the impact of corporate governance on the corporate investment decision with special reference to the companies listed on the Colombo Stock Exchange. According to the findings, board characteristics of board size, board composition, CEO duality, board meetings and board stockholding affect significantly the investment decision of listed companies in Sri Lanka.

Company management can consider the findings of the study when corporate investment decisions are made, while the findings will shed light when making investment decisions by investors. For more precise and reliable results, the study might be expanded by incorporating more independent variables and expanding the sample size and period.

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## **The impact of board characteristics and firm characteristics on earnings management**

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### **Introduction**

Earnings management can be identified as the opportunistic activity of managers for the benefit of themselves and their companies, whether those benefits are favorable or unfavorable. Earnings management happens when managers manipulate financial reports to deceive some stakeholders about the company's true economic performance or to influence the results of contractual agreements that are based on reported accounting numbers (Healy and Wahlen, 1998). In such a scenario, the board of directors, as one of the most significant internal control mechanisms, must monitor the actions of the managers and ensure the integrity of the information contained in the financial reports.

With regards to earnings management, agency theory (Jensen and Meckling, 1976) and positive accounting theory (Watts and Zimmerman, 1978) take up the majority of the focus. Agency theory by Jensen and Meckling (1976) emphasizes that the accounting function may be affected by the agency problem because of the separateness of the ownership and management of the company, while the positive accounting theory by Watts and Zimmerman (1978) emphasizes that managers are vulnerable to manipulating earnings to obtain incentives, bonus plans, and other benefits as a result of self-interest.

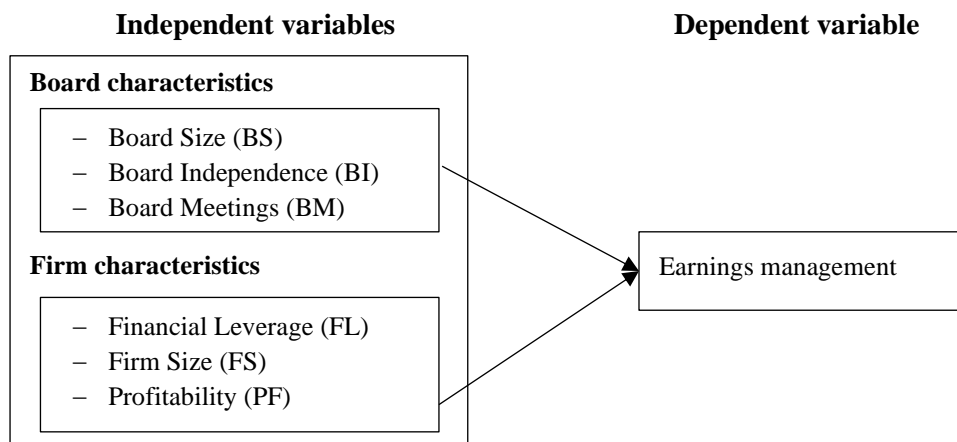
Kim et al. (2003) discovered that there is a higher tendency for earnings management in small firms than in large and medium-sized firms due to the fact that large firms typically have strong internal control and governance mechanisms. Furthermore, Alareeni (2018) emphasized that board size is negatively correlated with earnings management, while board independence and internal ownership positively correlated with earnings management, whereas CEO duality does not affect earnings management. However, Roodposhti and Chashmi (2010) found that board independence has a significant negative impact on earnings management, while CEO duality has a positive impact on earnings management. Abed et al. (2012) exposed that the size of the board of directors is the only variable that has a significant relation with earnings management, while board independence, role duality, and concentrated ownership are insignificant. Similarly, Epps and Ismail (2009) found that the board size significantly impacts earnings management. Moreover, Bala and Kumai (2015) discovered that the board composition and women directorship are positively related to earnings management, whereas the board size, board meetings, and board financial expertise are not significant.

When analyzing prior research, it becomes clear that the majority of studies on earnings management are conducted in different foreign contexts, and they are ended up with different conclusions. However, in the Sri Lankan context, it is hard to locate research that examines the studies that comprehensively focus on the impact of both the board characteristics and firm characteristics on earnings management. Therefore, this study expands the current literature by focusing on the effect of both board characteristics and firm characteristics on the earnings management of companies listed on the Colombo Stock Exchange (CSE).

## Methodology

This study's population comprises 285 companies covering 19 Global Industry Classification Standard (GICS) industry groups as of 31st July 2021. Companies in the financial sector were excluded because they are highly regulated, and difficult to calculate the cash flows to measure earnings management. Furthermore, newly listed companies that do not have five years annual reports and companies with missing data in annual reports were also excluded from the sample. Accordingly, 146 companies from different sectors were selected as the study's final sample using the stratified random sampling method. Secondary data were collected from the annual reports of the selected companies from 2016 to 2020 resulting in 730 observations. In order to verify the hypotheses presented in the study, panel data regression analysis was carried out using E-views.

Referring to previous literature in different contexts (Dechow et al., 1995; Rauf et al., 2012; Bala and Kumai, 2015; Nugroho and Eko, 2011; Kankanamge, 2015; Abed et al., 2012; Chen and Chen, 2011) the conceptual diagram is developed as depicted in Figure 1. Earnings management is the dependent variable of the study, and it was measured through discretionary accruals using the Modified Jones Model. The characteristics of the board, including board size, board independence, and board meetings, as well as the firm characteristics, including financial leverage, firm size, and profitability, were employed as the independent variables in this study.



**Figure 1. Conceptual Diagram**

The conceptual framework served as the basis for formulating the hypotheses and the research model.

H<sub>1</sub> = There is a significant impact of board size on earnings management

H<sub>2</sub> = There is a significant impact of board independence on earnings management

H<sub>3</sub> = There is a significant impact of board meetings on earnings management

H<sub>4</sub> = There is a significant impact of financial leverage on earnings management

H<sub>5</sub> = There is a significant impact of firm size on earnings management

H<sub>6</sub> = There is a significant impact of profitability on earnings management

$$EM_{it} = \alpha + \beta_1 BS_{it} + \beta_2 BI_{it} + \beta_3 BM_{it} + \beta_4 FL_{it} + \beta_5 FS_{it} + \beta_6 PF_{it} + \epsilon_{it}$$

Where; EM represents earnings management, BS indicates board size, BI indicates board independence, BM represents board meetings, FL represents financial leverage, FS indicates firm size, PF represents profitability,  $\alpha$  is the intercept,  $\beta_1$  to  $\beta_6$  are the coefficients of the independent variables, and  $\epsilon$  is the error term.

## Findings

Table 1 provides descriptive data for the dependent and independent variables used in this study. Absolute discretionary accruals were employed to determine the earnings management proxy (EM). Therefore, the average value of absolute discretionary accruals is -1.70, and the negative sign indicates that the majority of firms engaged in income-decreasing accruals. The standard deviation is 57.48, and the result suggests that the variable discretionary accruals vary significantly.

**Table 1. Results of Descriptive Statistics**

Variable	Mean	Std. Dev.	Skewness
Earnings Management	-1.70	57.48	-3.58
Board Size	7.92	2.29	0.32
Board Independence	0.41	0.14	1.46
Board Meetings	4.76	2.30	2.47
Financial Leverage	0.08	0.11	1.93
Firm Size	22.39	1.58	-0.02
Profitability	1.55	7.27	0.55

According to the correlation analysis, no multicollinearity issues were identified among independent variables. Multiple regression analysis was used to examine the impact of independent variables on the dependent variable. However, the Hausman Test was used to identify whether random or fixed effects are the best regression model for the collected data. According to the results, the fixed effects model based

on panel data was identified as the best model for the study sample. The results of the regression analysis are shown in Table 2.

**Table 2. Result of Regression Analysis**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Board Size (BS)	-0.518	1.029	-0.504	0.615
Board Independence (BI)	-35.372**	16.889	-2.094	0.037
Board Meetings (BM)	2.932***	0.943	3.110	0.002
Financial Leverage (FL)	-0.557	20.143	-0.028	0.978
Firm Size (FS)	-0.993	1.427	-0.696	0.487
Profitability (PF)	0.049	0.293	0.169	0.866
Constant	25.176	31.094	0.810	0.418

\*\*\* Significant at 1% level, \*\* Significant at 5% level.

According to the data represented in Table 2, H<sub>2</sub> and H<sub>3</sub> are accepted, while all other hypotheses are not supported. It implies that board independence has a significant negative impact on discretionary accruals, whereas the number of board meetings has a significant positive impact on discretionary accruals. This is consistent with Alareeni (2018) and Kankanamage (2015). These findings provide evidence to prove that when there is a higher composition of independent directors in the Board, they are capable of providing effective supervision over the company's management activities which results in controlling earnings management. Furthermore, findings indicate that earnings management can be controlled when the number of board meetings decreases. However, the board size, financial leverage, firm size and profitability do not significantly affect earnings management. These outcomes are consistent with Abed et al. (2012), Rosellyn and Lusmeida (2019), Chen and Chen (2011) and Ado et al. (2020).

## Conclusion

This research was conducted to identify the impact of board characteristics and firm characteristics on the earnings management of firms listed in CSE in Sri Lanka. The study used 146 companies as the sample, and data were collected for a period of five years from 2016 to 2020. The findings of the study indicated that earnings management would be controlled when there are more independent non-executive directors and fewer board meetings, whereas earnings management is not significantly impacted by board size, financial leverage, firm size, or profitability.

By referring to the results of this research, investors and financial institutions can take the board and firm characteristics into account when tailoring their investment and lending strategies. Policymakers can make or modify existing rules and regulations regarding corporate governance regarding the independence of non-executive directors and board meetings per year.

Future research could be conducted by incorporating more corporate governance variables, which facilitate the determination of the board's effectiveness concerning

the ability to constrain earnings management behaviour while adding more firm characteristics as well. At the same time, increasing the sample size and period would facilitate a more reliable analysis.

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## **Governance and long-term operating performance of family and non-family firms of Sri Lanka**

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### **Introduction**

An investigation of the role of family ownership on financial performance is of particular importance because family-owned firms have substantial participation in the worldwide market. Every industry characterizes the presence of family businesses which employ thousands or millions of people, handle billions of dollars, and provide very complex goods and services (Halili, 2016). Family businesses are typically passed down from one generation to the next and are set up to hire family members with a variety of backgrounds and business expertise. These enterprises play an important role in developed as well as developing countries.

Accordingly, family shareholders may more concern about their own benefits than other shareholders. In this situation, family shareholders who represent director board and management team may strive to maximize their own benefits. Therefore, empirical studies find that a higher level of family-ownership and the involvement of family members in the governance eliminate or at least diminish the information gap and mitigate agency costs (Jensen, 1976). Early literature analyzes the classical agency problems between the principal and agent in large corporations with a heterogenic ownership structure. Furthermore, Jensen (1976) elaborates agency concept and discusses the nature of agency problem under different ownership structures.

Therefore, the differences in goals and interests between these two groups of participants (owners and managers) in the business cause principal-agent conflicts. It also affects the differences in risk preferences between owners and managers. However, agency problems can arise as a result of privileged access to information and self-interested behavior of managers in the firm with a dispersed ownership structure, and agency problems are related to the nature of ownership and governance structure. In practice, most of the managers may focus on their benefits. In such a situation, conflicts between owners and managers can typically arise. In family firms, owners and the managers could be the same, and consequently, fewer agency problems could be apparent. Due to the significant influence of family members over the decision-making process, family members may have the incentive to extract private benefits at the expense of minority non-family shareholders. Non-family firms are business organizations with an ownership structure spread among a small number of controlling shareholders or many small investors, resulting in a separation of ownership and control. In non-family firms, the decision-making process is diffused among different participants. Mostly firms hire managers from outside who may enjoy

higher personal benefits rather focusing shareholders' value maximization. In firms with dispersed ownership structures, a critical challenge is the agency problem between controlling shareholders and managers. Accordingly, firm performance is a function of the principals (owners) – agents (managers) conflicts of interest (Halili, 2016).

This research has one main objective: to examine the impact of family ownership and firm operating performance. When achieving these objective, operating performance of family firms and non-family firms are considered separately.

## Methodology

This study gathers data by using mainly secondary data sources. We use financial, and non-financial information including corporate governance data from annual reports which usually compose with financial statements, list of top-20 shareholders, and the reports of directors. The population of the study comprises 201 non-financial firms listed in the Colombo Stock Exchange, out of which 100 firms are chosen as the sample, consisting 32 family firms and 68 non-family firms. Data is prepared in a panel data window for a period of eight years from 2012 to 2019.

**Table 1: Variable Definitions**

Variable	Measure
<b>Independent Variable</b>	
Firm Ownership (OWNER)	Share ownership of the largest shareholder.
<b>Dependent Variable</b>	
ROA	Earnings before Interest / Total Assets
ROE	Net Profit after Tax (NPAT) / Shareholder Equity
Tobin's Q	Market capitalization + Book Value of Liabilities / Book Value of Total Assets
<b>Control Variables</b>	
Firm Size (SIZE)	Natural logarithm of total Assets
Firm Age (AGE)	The difference between listed date and a current year
Firm Leverage (LVG)	Shareholder Equity/ Total Assets
Firm risk (RISK)	Standard Deviation of daily share return
Sales Growth (SGROW)	Sales difference between previous year and current year divided by previous year sales
Share Price (PRICE)	Closing daily share price index
Board Size (BSIZE)	Number of directors on the board
Board Independence (BIND)	Proportion of independent non-executive directors
CEO Duality	A dummy variable equals to one if the same person exerts the function of both the chairman and CEO.

*Source: Authors' Own, 2022*

While ownership structure is the independent variable, proxies of long-term operating performance (Operat. Perfor.) represent the dependent variable. Besides, we use firm



specific variables (firm size, firm age, leverage, firm risk, sales growth, and share price) and corporate governance characteristics (board size, board independence, CEO duality) as control variables. Table 1 shows definitions and measurements of all these variables. While we use descriptive statistics to explore the nature and distribution of our data, correlation and analyses are implemented to achieve our objectives. Thus, we propose following econometric model to test the relationship between our variables.

$$\text{Operat. Perfor.}_{it} = \beta_0 + \beta_1 \text{OWNER}_{it} + \beta_2 \text{SIZE}_{it} + \beta_3 \text{AGE}_{it} + \beta_4 \text{LVG}_{it} + \beta_5 \text{RISK}_{it} + \beta_6 \text{SGROW}_{it} + \beta_7 \text{BSIZE}_{it} + \beta_8 \text{BIND}_{it} + \beta_9 \text{CEOD}_{it} + \beta_{10} \text{PRICE}_{it} + \varepsilon_{it}$$

## Findings

The main objective of this study is to examine the impact of family ownership on the operating performance. Thus, in this section, we discuss descriptive statistics of variables and establish a regression analysis.

### *Descriptive Statistics*

Table 2 shows that return on assets and return on equity of an average firms amount to 6.7% and 4.2%, respectively. Tobin's Q is 1.87 with much variations across the sample. Age of an average firm after share listing is nearly 30 years. External borrowings scaled by total assets amounts to 89%. Firm risk measured by share price volatility approximates to 30%. A typical board consists of eight directors out of which 40% is represented by independent non-executive directors. The CEO also hold the board chair position at 31% of firm-year observations.

**Table 2: Descriptive Statistics**

Variable	Obs	Mean	Std. Dev	Min	Max
ROA	800	0.067	0.107	-0.414	1
ROE	800	0.042	1.186	-31.333	6.552
TQ	800	1.870	5.847	-3.501	119.56
SIZE	800	5.890	1.230	1	1.340
AGE	800	29.943	17.207	1	91
LVG	800	0.112	0.149	0	1.592
RISK	800	0.295	0.706	0	9.231
SGROW	800	0.501	4.467	-1	81.51
PRICE	800	292.226	1399.013	5	15999
BSIZE	800	7.888	2.164	3	14
BIND	800	0.406	0.131	0	1
CEOD	800	0.306	0.461	0	1

*Source: Authors' Own, 2022*

### *Regression Analysis*

According to table 3, firm ownership is positively and significant impact on ROA and ROE in family firms while firm ownership has a significant negative impact on

Tobin's Q. In non-family firms, largest shareholder ownership is significantly and negatively related to operating performance. In family firms, as managers and the owners are the same, managers are less likely expropriate corporate resources, resulting increased accounting performance. However, family firms can create less market liquidity leading poor market performance as measured by Tobin's Q. Non-family firms exhibit typical agency problems between managers and shareholders as the ownership of the largest shareholder deteriorates firm value. Table 3 further shows that family firms with longer tenure, much leverage, and unitary leadership structure undermine long-term operating performance. While firm size and board size of non-family firms augment corporate performance, their other firm specific and corporate governance characteristics display mixed evidence. For instance, though unitary leadership undermines accounting performance, it enhances the market-based performance measure (Tobin's Q).

**Table 3: Regression analysis result of family firms and non-family firms**

	Family firms			Non-Family firms		
	ROA	ROE	TQ	ROA	ROE	TQ
OWNER	0.0246*** (0.0075)	0.0310*** (0.0073)	-0.1110*** (0.0367)	-0.0001 (0.0027)	-0.0343*** (0.0036)	-0.5587*** (0.1832)
SIZE	-6.7713 (7.0313)	-6.8913 (5.2813)	-2.9312 (4.8212)	9.1613* (5.2413)	6.4812*** (1.5512)	1.1010*** (3.2211)
AGE	-0.0002 (0.0005)	-0.0009*** (0.0003)	-0.0069*** (0.0016)	-0.0007*** (0.0002)	0.0010*** (0.0004)	-0.0323** (0.0160)
LVG	0.0084 (0.0465)	-0.1148** (0.0506)	0.2445 (0.1632)	0.0118 (0.0184)	0.1147** (0.0466)	-1.5981 (1.9044)
RISK	0.0331*** (0.0114)	0.0401*** (0.0044)	0.0295 (0.0777)	-0.0062 (0.0041)	0.0143 (0.0110)	-0.1007 (0.3907)
SGROW	0.0471** (0.0239)	0.0812*** (0.0236)	-0.0739 (0.1029)	-0.0003 (0.0006)	0.0004 (0.0011)	0.0058 (0.0514)
BSIZE	-0.0085* (0.0048)	0.0050* (0.0030)	0.0704*** (0.0224)	0.0062*** (0.0012)	0.0145*** (0.0018)	-0.1008 (0.1302)
BIND	-0.0938 (0.0704)	-0.0237 (0.0524)	0.5078* (0.2814)	0.0577*** (0.0166)	-0.2011*** (0.0312)	-2.5331 (2.1105)
CEOD	-0.0256 (0.0185)	-0.0249* (0.0130)	0.1085 (0.0744)	-0.0029 (0.0048)	-0.0619*** (0.0160)	1.5163** (0.6202)
PRICE	-3.9507 (2.9806)	-5.2207 (4.5906)	0.0001*** (0.00001)	0.00003*** (6.9506)	-5.2406 (0.00003)	0.0023*** (0.0009)
Constant	-0.3562 (0.1574)	-0.6097 (0.1529)	3.0281 (0.7045)	0.0028 (0.0577)	0.7170*** (0.0799)	15.593 (4.0028)
Wald	30.52	150.1	118.8	102.8	161.7	40.29
Chi2						
Prob>chi2	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000

Source: Authors' Own, 2022

Note: \*\*\*, \*\* and \* indicate significance at 1%, 5% and 10% levels, respectively

## Conclusion

The main objective of this study is to examine the impact of family ownership on the operating performance. For that we conducted a comparative analysis of family and

non-family firms listed on the Colombo Stock Exchange for the period of 2012-2019 focusing on the agency theory.

According to regression analysis, firm ownership is positively and significant impact on ROA and ROE in family firms whereas firm ownership has a significant negative impact on Tobin's Q. Largest shareholder ownership is significantly and negatively related to operating performance in non-family firms. In family firms, as managers and the owners are the same, managers are less likely expropriate corporate resources, resulting increased accounting performance. Conversely, family firms can create less market liquidity leading poor market performance as measured by Tobin's Q. Non-family firms exhibit typical agency problems between managers and shareholders as the ownership of the largest shareholder deteriorates firm value.

In addition, the findings of this research will be useful for investors, policymakers, market regulators, analysts and researchers to provide guidance for the improvements of the performance and developing strategies for family and non-family firms.

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## *Corporate Reporting and Auditing*

# The effect of using an accounting information system on the quality of accounting information according to users' perspectives in Sri Lanka

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## Introduction

Accounting Information Systems (AIS) has become a very popular area in every sector of Sri Lanka, as well as in other countries, due to globalization in the world. Accounting Information Systems are a product of the information systems developed within the organizational context to enhance the efficiency of financial information and decision-making. It contributes to the knowledge management and strategic role of the organization. The main purpose of this research is to identify the impact of the Accounting Information System on the quality of accounting information according to the users' perspectives in North Western Province in Sri Lanka.

According to the formulated research questions, the following research objectives are intended to achieve through this contemporary study.

1. To identify the impact of the reliability of the Accounting Information system on the quality of accounting information.
2. To identify the impact of the Flexibility of the accounting information system on the quality of accounting information
3. To identify the impact of the Simplicity of use of the Accounting Information system on the quality of accounting information.

The definition of a system, according to Azhar Susanto (Susantho, 2013), is a set of sub-components in any physical or non-physical system that are connected and operate together to accomplish a certain purpose. The AIS impacts all aspects of the business, including management, social activities, marketing activities, and financial activities. It aims at solving everyday problems of the company operations by applying appropriate knowledge generated through the AIS (Kanakriyah, 2016). The use of AIS in the organization has several other advantages. Such as a high degree of competitiveness, improved administration of internal company activities, and a more remarkable ability to adapt to a changing environment are beneficial. Accounting information systems rely on the quality of the data input, and if low-quality data is used, the process will produce low-quality outcomes. The absence of information of sufficient quality weakens the decisions made, resulting in inaccurate and inefficient decisions (Ahmed, 2019). Most accounting Information systems began to fail because of the absence of producing quality information and also because of the inadequacy to provide information in line with the expected users and the failure perceived by the user. Therefore, it can be identified that when the information quality is not found, it creates the AIS becomes useless (Keiso E. , 2011).

When revealing the available literature related to the Sri Lankan context, it shows that this issue or the research gap has not been addressed adequately in the local context, and they are not focusing on how AIS influences the quality of the accounting information. Hence this contemporary research is intended to address the investigation of the impact of Accounting Information Systems on the quality of the accounting information related to the users' perspective of Sri Lanka.

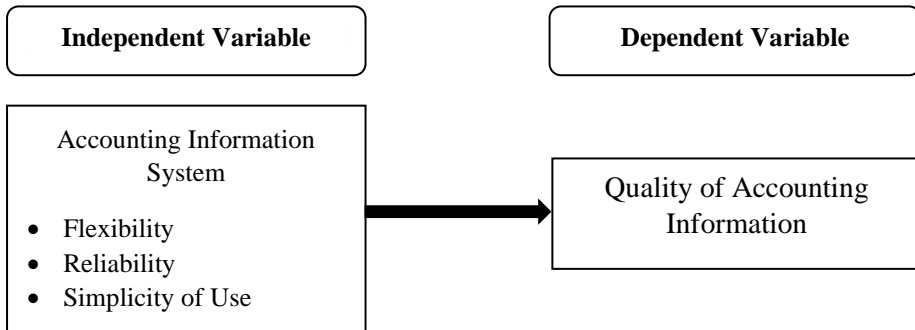
## **Methodology**

The study "The effect of using accounting information system on the quality of accounting information according to users' perspective in Sri Lanka" is carried out to focus on the questions faced by the AIS users of the different fields when conducting and establishing AIS. Through this study, it is expected to answer the following questions.

1. Is there an impact of the Reliability of the Accounting Information Systems on the quality of accounting information?
2. Is there an impact of the Flexibility of the accounting information systems on the quality of accounting information?
3. Is there an impact of the Simplicity of use of Accounting Information Systems on the quality of accounting information?

A sample of 326 different AIS users was selected from the North Western Province for the study by using the convenience sampling method. Such as accountants, investors, creditors, academics, and auditors. This study used positivist research philosophy and mono method as the research method because it is connected with the quantitative approach, and data was collected through a structured questionnaire and analyzed using a statistical package for social science (SPSS), descriptive analysis, correlation analysis, regression analysis, and hypothesis testing. Then the researcher used the deductive research approach because this study is focused on testing hypotheses by existing theories. Such as contingency theory and resource-based theory. Also, used the survey strategy and explanatory data to do the research. As, well the researcher used cross-sectional data because the study is based on time and a particular area.

The researcher focuses on the reliability, Flexibility, and Simplicity of the use of AIS as an independent variable for assessing the dependent variables in this study. The link between the identified dependent variables and independent factors is depicted in the conceptual framework from Figure 1.



**Figure 3. Conceptual Framework**

*Source: Developed by the Researcher*

## Findings

According to the findings of the study, Accounting Information Systems have a significant impact on the quality of accounting information according to the users' perspective in North Western Province. As per Cronbach's Alpha test, the independent and dependent variables in the research model gave reliable and credible results. According to Bartlett's test, the significance level is also less than 0.05. So, it measures the sampling adequacy and the appropriateness of the factor analysis in better conditions. The correlation between the variables was 0.741, 0.757, and 0.795, which is significant at the 0.000 level. The correlation was found to be strong as it is over the lower bound of a strong correlation (0.5). According to the results of the regression analysis, the adjusted  $R^2$  value of 0.689 indicates that the independent variable (Accounting Information System) can explain 68.9% of the variation in the quality of accounting information. F value is 237.973, which is significant at 0.05, indicating that the independent variable statistically significantly predicts the dependent variable.

## Conclusion

According to the results of this study, when conducting the AIS in practice, we can expect a positive impact on the quality of accounting information. This says that using Accounting Information System is a good option to increase the quality of accounting information, and that will be one of the most effective ways. As per the previous research findings of Al-Samaerraie and Al-Zoubi (Al et al., 2004), (Stair & Reynolds, 2011), and (Bhavna, 2015) to have quality accounting information, it is significant to have the reliability, Flexibility, and Simplicity of use of AIS to increase the efficiency of the decision making process of a firm. Prior researchers also found that there was also a positive relationship between AIS and the quality of accounting information. The results of this study can be used for future studies and for companies that are trying to identify the impact that can be made through the effect of using an Accounting Information System on the quality of accounting information.

However, the following limitations were gone through when conducting this study. There are various AIS users in Sri Lanka. Such as accountants, consultants, business analysts, managers, chief financial officers, auditors, regulators, and so on. But in this

study, only the accountants, creditors, investors, auditors, and academics are considered. The sample for this study was 326 respondents who are using the AIS in North Western Province in Sri Lanka. The sample size of the research becomes a major limitation due to the failure to identify the exact population.

The study recommends increasing the awareness of Accounting Information Systems in the corporate world as that can make more value to the firms when making decisions by increasing the quality of accounting information. This can be made through conducting more training courses for the system users as per their needs and the position targeting the corporate sector of Sri Lanka and expanding the opportunities to study Accounting Information Systems in the degree programs offered in Sri Lanka and other professional courses which are relating to accounting and management fields.

Further, there are many opportunities for future researchers to conduct their research on this area by increasing the scope of the research to different AIS users and different geographical districts.

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## **Factors affect in international Financial Reporting Standards (IFRS) adoption: Sri Lankan practitioners' perspective**

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### **Introduction**

International Financing Reporting Standards (IFRS) are the global language of business affairs. The accounts or the prepared financial statement should be understandable and comparable internationally, as IFRS was introduced. Over 130 countries permit IFRS for financial reporting, which has become an essential component of globalization (Tsunogaya, 2016). The adoption and implementation of IFRS in the European countries and other countries are challenging and face challenges of educational needs (Odia & Ogiedu, 2013), technical skills and inadequate knowledge, difficulty in developing existing accounting systems, insufficient education and training (Zakari & Abulgasem, 2014). Joshi (2016) Limited empirical investigations have been carried out to recognize issues and challenges when adopting IFRS. Japan, India, Libya, and Indonesia have investigated the issues and challenges of adopting IFRS in empirical studies (Odia & Ogiedu, 2013; Sharma, Joshi, & Kansal, 2017). This study intended to study the Sri Lankan dimension, the issues and challenges faced by Sri Lankan professionals when adopting IFRS with the varying gender, experience, and qualification, training, accounting education, level of technology and software knowledge of professionals and finally, measures the effectiveness of remedies to mitigate IFRS adoption issues and challenges from the Sri Lankan practitioner's perspective.

The research objectives are going to be optimized as follows,

- Identify the significant issues professionals face when adopting and engaging in IFRS in Sri Lanka.
- To identify how age, gender, experience, professional's qualification, level of technology, and training influence the adoption of IFRS in Sri Lanka.
- Identify the remedies that could be taken to reduce the impact of issues and challenges faced by professionals who engage with IFRS.

### **Methodology**

A self-administrated questionnaire was used to collect data concerning practitioners' perceptions, and descriptive analysis, t-test, ANOVA test, and regression analysis were undertaken on the resulting data.

The questionnaire was designed to obtain data regarding demographic characteristics of practitioners and issues and challenges they face as their perception, and the remedies to mitigate the obstacles and challenges to optimizing the research objectives.

The first research objective is to identify the IFRS adoption issues and challenges Sri Lankan accounting practitioners face. For that, a mean ranking was performed. The mean value can determine whether there is a significant difference in variables and measure the issues and challenges Sri Lankan practitioners face. The mean value identified a significant level of issues and challenges.

Secondly, to identify how the variables: gender, accounting education, technical skills, experience and adoption training affect the IFRS adoption in the Sri Lankan context. Therefore, regression analysis was performed to measure the significance of the variables. An ANOVA test is performed to measure the significant difference among demographic characteristics.

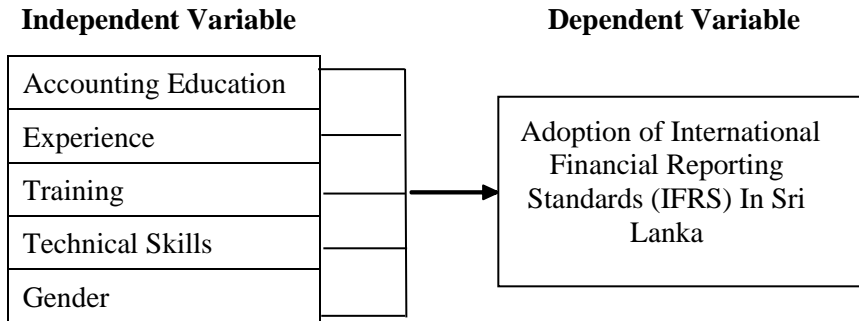
The study's target population was accounting practitioners engaging in financial reporting. Since the population is not statistically proven, the convenience sampling method was selected with 316 samples.

Accounting education, experience, technical skill, adoption training, and gender are the variables considered to measure the influence of IFRS adoption. The gender variable is regarded as a dummy variable in the study.

Thirdly, measure the effectiveness of remedies to mitigate the IFRS adoption issues and challenges accounting practitioners face. The effectiveness is measured by how far the remedies are effective toward mitigating IFRS adoption issues and challenges. The significant difference between the considered remedies is identified in the mean value. The mean ranking was measured based on the neutral value of responses (3).

The research framework of the study represents in figure 01. a) accounting education, b) experience of practitioners, c) IFRS adopting training, d) technical and software skills and e) gender of practitioners have been considered as the independent variable and IFRS adoption issues and challenges are considered as the dependent variable of the study. As per Figure 1, interconnectivity between the independent and dependent variables in IFRS adoption is represented.

Previous studies have investigated that lack of accounting education, technical and infrastructure training, and experience significantly affect IFRS adoption and create IFRS adoption issues and challenges. (Sharma, Joshi, & Kansal, 2017) Further potential knowledge shortfall, lack of awareness of international financial reporting practices, and training can be considered significant issues accounting practitioners face. (Ain, 2011) in addition, adopting IFRS involves higher cost, complexity, lack of implementation guidance, and uniform interpretation identified as critical challenges. (Sidik & Rahim, 2012)



**Figure 4. Conceptual Framework.**

Accounting education and technical issues affect the adoption of IFRS. (Odia & Ogiedu, 2013) having insufficient staff training affects IFRS adoption. (Odia & Ogiedu, 2013), education and the experience of practitioners affect the adoption of IFRS (Weaver & Woods, 2015).

Previous studies have suggested that providing sufficient education on IFRS issues and organizing training programs will give a great understanding of the benefit of IFRS adoption. (Joshi, 2016) and pre-university accounting education, adjust the education and training according to the development of IFRS. (Zakari, 2014) (Odia & Ogiedu, 2013) and information technology and infrastructure should be developed (Sharma, Joshi, & Kansal, 2017).

### **Finding of the Study**

The finding is generalized based on the responses given by the selected sample. Initially, the demographic characteristics of practitioners were analyzed using descriptive statistics to identify the frequency of demographics. Male practitioners have mainly participated in the survey. Most of the sample represents the age group of 25-29, and many have more than 2 to 5 years of experience. More than 50% of practitioners were fully qualified with any professional and educational level (CASL, ACCA, AAT, Degree, Diploma, and Postgraduate). Finally, more than 64% of respondents represent the executive level in their organization. The ANOVA test separately identifies the effect of the different groups on IFRS adoption and the significance of demographic characteristics.

Based on the one sample t-test, the test value of 3 and the mean value also indicated a significant difference and found a) lack of adequate training, b) technical skills, c) adequate professional education, d) identifying practical implementation issues in the IFRS adoption process from the early adopters, e) lack of clear guidance, f) weakness of professional accountancy regulatory bodies are the issues, and challenges practitioners face. However, the lack of ethical knowledge is not a significant issue in IFRS adoption.

The regression analysis measures how the a) accounting education, b) experience of practitioners, c) IFRS adopting training, d) technical and software skills, and e) gender

of practitioners affect the adoption of IFRS. All variables except gender significantly impact the adoption of IFRS in the Sri Lankan context, and the hypothesis was proved based on the regression outcomes (Table 1).

**Table 5: Hypothesis testing based on regression**

Hypothesis	Sig-Value	Whether the alternative hypothesis is Accept	Justification based on regression analysis
H1: Educational background and professional qualification significantly affect the adoption of IFRS in Sri Lanka	0.00	Accept	The education of the practitioners significantly affects the adoption of IFRS in the Sri Lankan context
H2: Experience of practitioners significantly affects the adoption of IFRS	0.015	Accept	The experience of the practitioners significantly affects the adoption of IFRS in the Sri Lanka context
H3: Training practitioners in terms of adopting IFRS significantly affect the adoption of IFRS	0.00	Accept	The training on the practitioners' adoption significantly affects the adoption of IFRS
H4: Technical skills of accounting practitioners significantly affect the adoption of IFRS	0.00	Accept	The technical skill of the practitioners significantly affects the adoption of IFRS
H5: Gender of the practitioner significantly affects the adoption of IFRS	0.844	Not Accept	The gender of the practitioners substantially does not affect the adoption of IFRS

The one-sample t-test was performed to assess whether the mean value is statistically different from the neutral value (3) to measure the effectiveness of remedies. The practitioners agreed that such treatments are more practical to mitigate IFRS adoption issues, a) need adequate training to adopt IFRS, b) need technical skills and adequate professional education, hire knowledgeable people who have enough knowledge on new IFRSs, c) develop an independent oversight body to monitor IFRS adoption compliance d) giving clear guidance for adopting IFRSs by the accounting regulation bodies, e) avoiding inconsistency of existing regulatory framework if accounting, f) avoid the weakness of professional accountancy regulatory bodies.

Additionally, diagnostic tests have been performed to measure the reliability of the variables and identified that the variables are more significant. The normality was measured, and found that the internal consistency is good.

## Conclusion

Sri Lanka needs to develop its accounting education, training, experience, and technical skills to enhance the quality of IFRS adoption. Allowing greater access to technology, education and knowledge could help adopt IFRS. Previous studies also

have found that lack of education, training, and technical skills create obstacles when adopting IFRS in a different context.

Sri Lankan accounting practitioners face obstacles with a lack of accounting education, adoption training, technical and software skills, and lack of experience in terms of IFRS adoption. Weakness in accounting education, technical adopting skill, and weakness in training should be reduced to mitigate adopting issues

The study discussed the issues and challenges Sri Lankan accounting Practitioners to face. The impact of education and professional qualification, training, experience, technical skills, and gender in adopting IFRS and finally suggested the remedies from the practitioners' perspective toward mitigation of IFRS adoption issues. Finally, the study's outcome can be utilized for policy-making and enhancing the quality of IFRS adoption.

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## **The influence of financial ratio factors on the income increase of listed companies in Sri Lanka**

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### **Introduction**

Profit Growth is one of the main objectives of a company and the management of the company always tries to increase its profit. The success of a company depends on profit, and it helps to survive in the market. In addition, all stakeholders measure the company's financial performance and efficiency level based on profit growth. Therefore, the profit is important to attract the company's stakeholders as well as grow its businesses, maintain the company's office equipment, and other day-to-day operations. Many researchers have studied various methods to evaluate the factors that influence profit growth. Among them, financial ratio analysis is very much critical. This study is based on the listed companies that are registered on Colombo Stock Exchange (CSE) in Sri Lanka. The study is going to identify, what are the relationships between selected financial ratio factors and profit growth and the influences of that factors on profit growth. In addition, the study is going to identify the models' ability to explain the variation of the factors. The world has already tested this problem but no one tested the dependent variable which is the profit growth as a percentage of the Sri Lankan listed companies. The problem is here, the previous researchers have evaluated the influences of various financial ratios but the results are different from each other. So this study is trying to identify which kind of influences are having on the profit growth by financial ratio factors in the Sri Lankan context and whether it is a significant influence or not.

The signal theory and the agency theory relate to this study and it has identified the previous researchers' findings relating to the Current Ratio (CR), Total Assets Turnover (TAT), Net Profit Margin (NPM), Debt to Equity (DER), and Return on Assets (ROA). The study of (Pernamasari, Budyastuti, & Putri, 2019) and (Nugraha, Puspitasari, & Amalia, 2020) found CR has a positive significant influence and TAT has no significant influence on Profit Growth. The study (Heikal, Khaddafi, & Ummah, 2014) found that NPM and ROA have a positive significant influence on profit growth. And also (Endri et al., 2020) have found DER hurts profit growth.

### **Methodology**

The methodology represents the general methods of the study that have been used to obtain, organize and analyze the data. Positivism is the research philosophy of this study because the existing theories such as agency theory and signal theory have been used to develop hypotheses. The research approach is here deductive approach because of measuring the causal relationships between financial ratio factors and

Profit growth. As of 31<sup>st</sup> of August 287 companies have been listed on Colombo Stock Exchange, and that is the population of the study. Seventy-five companies have been selected as a sample by using the simple random method. The framework illustrates the investigation of the influence of independent variables, namely Current Ratio, Total Assets Turnover, Net Profit Margin, Debt to Equity Ratio, and Return on Assets on the dependent variable, which is Profit Growth. The Current Ratio is calculated by dividing the current assets by the current liabilities. The total Assets Turnover ratio is calculated by dividing the net sales by the total assets. Net Profit Margin is calculated by dividing net profits from net sales and Debt to Equity is calculated by dividing total liabilities by total equity. Return on Assets is calculated by dividing the net profits by the company's total assets. And also, the Profit Growth is calculated as a percentage by subtracting the previous period's revenue from the current period's revenue and then divides by the previous period's revenue. The hypotheses have been developed by considering previous researchers' findings and it considered whether there is a significant influence of financial ratio factors on Profit Growth. The data was collected through the financial statements of annual reports such as income statements and balance sheets that are available on the CSE website. The consideration period is from 2015 to 2019, and the results are based on these 5 years. The data was analyzed by using E-views 10.0 software and used techniques such as descriptive analysis, correlation analysis, and panel data regression analysis to examine the influence of financial ratio factors on Profit Growth. The research model is developed as follows by considering previous authors' articles,

$$Y_t = \alpha + \beta_1 CR + \beta_2 TAT + \beta_3 NPM + \beta_4 DER + \beta_5 ROA + \varepsilon$$

$Y_t$  = Earnings Growth,  $\alpha$  = Constant,  $\beta$  = Coefficients, CR = Current Ratio, TAT = Total Assets Turnover, NPM = Net Profit Margin, DER = Debt to Equity Ratio, ROA = Return on Assets,  $\varepsilon$  = Coefficient Error

## Findings

### *Descriptive Statistics*

This analysis showed the basic features such as mean, standard deviation, maximum value, and minimum value of each variable including independent and dependent variables. So here, the mean and standard deviation of Profit Growth was -0.23 and 3.93, respectively. And also, the maximum and the minimum was 26.24 and -44.59, respectively. The maximum and the minimum value were 74.26 and 0.01 of the Current Ratio when the mean was 3.84 and the variance was 7.58. Total Assets Turnover showed a 0.59 variance in the study and the maximum, minimum, and mean were 3.39, 0.002, and 0.57, respectively. The variance of the Net Profit Margin was 2.57 and the maximum and the minimum was 24.99 and -9.73, respectively. The Debt-to-Equity ratio showed a maximum of 16.69 while the minimum was -6.99 and 1.61 standard deviation. And finally, the variance of the Return on Assets presented by 0.098, and the maximum and the minimum showed as 0.72 and -0.4, respectively.

### ***Correlation Analysis***

This analysis shows the relationship between each independent variable and dependent variable. So the Current ratio, Debt to Equity, and Return on Assets represented a negative relationship on Profit Growth. As well as Total Assets Turnover and Net Profit Margin showed a positive relationship on Profit Growth.

### ***Regression Analysis***

**Table 1. Regression Analysis-Fixed Effect Model**

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
C	-0.100	0.971	-0.103	0.918
CR	-0.029	0.044	-0.654	0.514
TAT	1.711	1.619	1.057	0.291
NPM	0.277	0.120	2.314	0.021
DER	-0.474	0.213	-2.231	0.026
ROA	-15.852	3.810	-4.161	0.000
R-squared	0.275			
Adjusted R-squared	0.080			
F-statistic	1.413			
Prob(F-statistic)	0.021			
Durbin-Watson stat	2.710			

Through the regression analysis, we can identify the influence of financial ratio factors on the volatility of the percentage increase in Profit Growth. So, among the cross-section of the panel options, the study has selected the Fixed- effect model according to the Hausman test results. It showed a significant influence on Profit Growth by Net Profit Margin, Debt to Equity Ratio, and Return on Assets. But there was not a significant influence on Profit Growth by the Current Ratio and Total Assets Turnover. The R square represented a 27.5% variance in Profit Growth and the Adjusted R square was 8.02%. However, it was significant at the probability level of the F statistics.

**Table 2. Model's Accuracy**

<b>Model</b>	<b>R-squared</b>	<b>Adjusted R-squared</b>	<b>F-statistic</b>	<b>Prob(F-statistic)</b>
1	0.275	0.0802	1.413	0.02

### **Conclusion**

The main objective of the study is to find the influence of financial ratio factors, namely Current Ratio (CR), Total Assets Turnover (TAT), Net Profit Margin (NPM), Debt to Equity Ratio (DER), and Return on Assets (ROA) on Profit Growth (PG). The study has selected 75 listed companies on Colombo Stock Exchange as a sample and evaluated the data from the 2015 to 2019 time period. The research has analyzed the data from E-views software and used statistical techniques such as descriptive analysis, correlation analysis, and regression analysis to measure the influence of financial ratio factors on Profit Growth. The results of the findings have indicated that



CR has a negative and not significant influence on PG. The TAT has a positive but not significant influence on PG. And also, the NPM has a positive significant influence and DER and ROA have a negative significant influence on Profit Growth. When considering the model of the study, the R square showed a 27.5% variance in model accuracy, and the Adjusted R square showed an 8.02% variance. It means the model should be developed with more independent variables to get a lot of the response variability because these factors are not explaining much of the variation in Profit Growth.

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## **The relationship between green accounting practices and the profitability of listed banks and licensed commercial banks in Sri Lanka**

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### **Introduction**

Green accounting practices are crucial for all businesses. While numerous studies have examined sustainability reporting, CSR initiatives, and environmental accounting in environmentally sensitive industries, there is a paucity of studies on the Sri Lankan finance industry. As banking entities are insensitive, the purpose of this study is to determine the extent of Green Accounting Practices among Sri Lanka's banking entities. Using GRI standards for the economic, social, and environmental components, the level of green accounting procedures was determined.

This research aims to examine the relationship between green accounting practices and the profitability of listed banks and licensed commercial banks in Sri Lanka. Whether green accounting practices play a vital role, adoption of green accounting practices in developing countries is more dearth than in developed countries. There are several types of research on green accounting that have been done in developed countries than in developing countries. Nowadays, Sri Lanka is facing the challenge of environmental pollution, climate changes, regular natural disasters, deforestation and forest destruction, biodiversity loss, and degradation of coastal and marine habitats with rapid industrialization. Banks provide facilities to fill the saving and investment gap in the economy by playing the role of financial intermediary in the financial system, and eventually, it will cause to boost economic growth. Since firms are operating with the goal of profit maximization, Banks drive profit maximization through lending processes.

There are various types of green accounting practices followed by the Sri Lankan Banking sector. For instance, green banking is one major area of the green accounting practices done by the banking sector. Lalon (2015) states that there are two kinds of green banking practices such as in-house green banking & in their business area. However, the green accounting goal is that users or the stakeholders may able to evaluate and fully assess to financial position and performance of the considered company, the level of risk associated with the corporation, business growth prospects and the performance of corporate profits. Lako (2018) mentions that the goal of green accounting facilitates to evaluate the corporate sustainability before making both final economic as well as non-economic decisions.

According to Dissanayake, Tilt, & Xydias-Lobo (2016), the banking sector is not as environmentally sensitive as the manufacturing, energy, pharmaceutical, utility, and mining industry sectors. Yet the level of green accounting practices level is varied from firm to firm, investigation of green accounting practices and the profitability of firms may provide vital results for all users who take decisions on the information based on the green accounting performance. Since the green accounting practices level differs from firm to firm, users may not be able to take decisions regarding the firm directly by reviewing the green accounting practices disclosed because the level of disclosure depends on some organizational characteristics and financial performance. When considering the literature, past studies on green accounting practices and profitability comparisons among the Sri Lankan banking industry using the GRI framework has a dearth. Therefore, the purpose of this study is to investigate the relationship between green accounting practices and the profitability of the banking industry in Sri Lanka for a clear understanding for intended users to make the right decision. So, this study fills the gap contributing to the literature by examining “What kind of relationship between the green accounting practices and profitability of banks listed in the Colombo Stock Exchange under the banking industry and the licensed Commercial Bank under the Central Bank of Sri Lanka”.

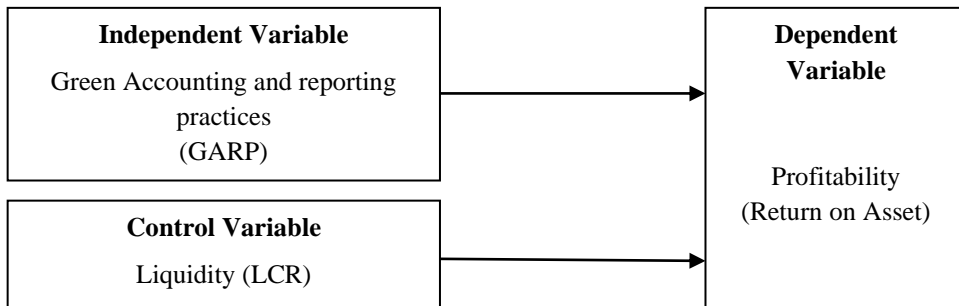
This study mainly identified stakeholder theory, Legitimacy Theory, Institutional Pressures Theory, Company Theory and Green Accounting, Global Reporting Initiatives (GRI), Profitability and Liquidity as the and definitions which are related to this research study. In the theoretical background, researcher theories have discussed the definitions, opinions and statements expressed by the other researchers regarding the above-mentioned theories. Most of the past studies have shown a significant positive relationship between green accounting and profitability.

## **Methodology**

According to the selected method of theoretical framework, a conceptual framework was established. Figure 1 depicts a conceptual model that was developed for this research. It includes one control variable in addition to the independent variable and the dependent variable. The study's independent variable is Green Accounting and reporting practices; the study's dependent variable is their outcome regarding Profitability (Return on Asset), and the study's control variable is Liquidity. This conceptual framework demonstrates how the research links the impact of the factors that were chosen through the evaluation that was done.

For this study, the population of interest consisted of the banking institutions that were trading on the Colombo Stock Exchange and All Licensed Commercial banks in the Central bank in Sri Lanka as part of the Banking industry as of August 2021. The total population takes into consideration the 26 publicly traded companies that are active in the banking industry. The sample consists of all of the publicly traded financial institutions that are recognized as being a component of the banking industry. These institutions are all CSE-registered and licensed commercial banks in Sri Lanka's central bank. This study will be undertaken over six years. As a result, the years 2015

to 2020 are being considered. Secondary data would be obtained by using, Annual reports of the companies Published by the Colombo Stock Exchange (CSE). Data on firm profitability, the total number of current assets, the total number of current liabilities, debt, equity, and content analysis data were gathered from the published annual financial reports of the Colombo Stock Exchange's listed companies and licensed commercial banks in the banking industry.



**Figure 1. Conceptual Framework**

The GARI was used to measure dependent variables in this study. Furthermore, to examine the disclosure level, the researcher used the disclosure score checklist, which is used by Sulaiman, Abdullah, & Fatima, (2014). When the indicator was completely disseminated, it received a score of 1, while the undisclosed indicator received a score of 0. Finally, the total number of points obtained was added up to produce the average score of the aforementioned disclosure level index by Ong et al (2016). Following data collection, preliminary analysis was performed, followed by descriptive analysis and regression analysis for data analysis. The analysis was carried out with the assistance of the E views software package.

## Findings

For the variables under consideration, mean value, standard deviation, maximum value, and minimum value were measured using descriptive statistics relating to green accounting practices and profitability of banks listed on the Colombo Stock Exchange under the banking industry and the licensed Commercial Bank under the Central Bank of Sri Lanka. The analysis made use of 144 observations, which were collected annually from 2015 to 2020. The average ROA is 0.070099% (standard deviation: 0.072899), with values ranging from -0.214042% to 0.266932%. The GRI average is 0.40000 (standard deviation: 0.320102), with minimum and maximum values of 0.230000 and 1.520000, respectively. The average LCR is 155.835 (standard deviation 0.0768272), with values ranging from 60.00000 to 459.6000.

Table 1 shows the regression output of the study relating to green accounting practices and profitability. Results in Table 1, shows there was a positive significant relationship between ROA and GARI. This indicates an increase in GARI reporting in licensed commercial banks in Sri Lanka will increase ROA. According to the results, 85.15% variation of the dependent variable (ROA) is explained by the selected independent

variables (the GRI differential, and the LCR differential adjusted to ROA). It implies by R-squared equals 85.15%. Adjusted R-squared is closer to R-squared. It implies that unnecessary variable usage in this model is very low. The probability of the F-statistic is 0.0000. Since the probability of the F- statistic is lower than the significance level of 5% (0.05), it can conclude that the overall model best fits the population.

**Table 1. Regression Output**

Variable	Coefficient	Std. error	t-Statistic	Prob.
c	0.248127	0.007667	6.276750	0.0000
GARI	0.142508	0.034611	4.117382	0.0001
LCR	0.000278	0.000140	1.985225	0.0491
R-squared			0.851508	
Adjusted R-squared			0.849402	
F-statistic			404.2745	
Prob(F-statistic)			0.000000	

*Source: Compiled by the author*

## Conclusion

There is a positive significant relationship between profitability and green accounting and reporting practices. This indicates an increase in green accounting and reporting practices in licensed commercial banks in Sri Lanka will increase profitability. In this study, the researcher has identified some limitations. This study was limited to evaluating the green accounting practices among the banking entities which are licensed commercial banks and all listed banks in CSE under the central bank of Sri Lanka. Further, among the licensed banks, this study selected only domestic banks. This study used GARI guidelines for measuring the indicators which indicate the economic, social and environmental disclosures. But the thing the researcher has used the GARI guideline which is effective since 2018. Until that time, the G4 framework was used by companies. It is difficult to collect qualitative data with a quantitative scoring method because the study focused on 62 total standards for six years on 24 banks. Furthermore, this study cannot consider the quality of the green accounting practices only it can consider whether the level of practices compliance or not.

This study not considered the classification of private and state banks. Both types of banks are licensed under the central bank of Sri Lanka. But there are some differences such as state banks owning large assets than private banks and there may be different directions, visions, and missions. If this study considers the state and private classification, it can give more clear results to evaluate the green banking practices among the private and state banks. The green accounting concept is a broad area than the environmental concept of CSR concept. However, there are no specific standards or measurement scales to measure green accounting practices. Hence this is the first time measuring green accounting practices through GRI guidelines under the dimensions of economic, social and environmental accounting practices.

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# **Impact of the audit quality on firm performance in Sri Lankan listed companies**

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## **Introduction**

The focus of this study was to investigate the impact of audit quality on the financial performance of Sri Lankan listed companies during the period 2017 and 2021. Audit quality is an important element in maintaining the firm performance of companies. An objective audit forms the basis for confidence on the integrity and credibility of financial reports (Hassan & Farouk, 2014). External audits carried out in compliance with auditing principles can strengthen the application of accounting principles by relevant entities. As per Arezoo (2011), an Audit is a professional ability that consists of a planned and coordinated set of processes for critically examining an individual's or an organization's assertions about the financial activities in which they are involved. An Independent audit offers a fair foundation for an unbiased assessment of the quality of financial statement information. Audit quality is vital for a well-functioning market and improved financial performance. In Sri Lanka, there aren't nearly enough researchers to fill the need for it. The purpose of this study is to see what effects audit qualities are in Sri Lankan listed companies.

This analysis focuses primarily on Sri Lankan publicly traded corporations. The data for this study came from a publicly listed company's annual report and could not be found in the company's internal records. This analysis focuses primarily on Sri Lankan publicly traded corporations and excludes Asian listed companies. Several cases of corporate financial scandals in Sri Lanka had raised doubts about the credibility of audit reports. An audit failure always negatively impacts the client's stock. That indicates that audit quality always impacts the firm's performance. This study aims to fill the void by establishing whether there is an impact of audit quality on firm performance.

This study has two objectives: to determine the relationship between audit quality and firm performance in Sri Lankan listed companies and to clarify how audit quality affects firm performance in Sri Lankan listed companies.

When considering the audit quality; the auditor's independence is critical because it allows him or her to reduce knowledge asymmetry, hence minimizing agency issues between owners and management (Enofeet.al.,2013). Yuniarti (2011) states that the amount of the audit fee depends on the risk of assignment, the complexity of services provided expertise, and other professional considerations. It indicates that a greater audit charge will however result in a higher quality audit. Further, Wibowo and

Rossietta (2008) assert that the probability of delivering high audit quality increases as the audit firm size gets bigger. Accordingly, to measure the audit quality as the independent variable, this study employed Audit firm size (AUFZ), auditor independence (AUI), and audit fees (AUF) as proxies. The dependent variable is firm performance., whereas the Return on Asset (ROA) has been used to explain firm performance. This study related to agency theory, Lending Credibility Theory, Theory of Inspired Confidence, and Signaling Theory.

## **Methodology**

The goal of this research is to determine the effect of audit quality on financial performance in Sri Lankan listed companies. The firms are selected from the companies which are registered on Colombo Stock Exchange (CSE). As of March 31, 2022, the Colombo Stock Exchange (CSE) included 296 enterprises from 20 GICS industrial groupings. Only 100 listed businesses were chosen using a random sample procedure, according to the Colombo Stock Exchange. The sample drawing frame only featured listed companies that had been operating in Sri Lanka for at least five years (2017 to 2021). Data for this study was gathered from the annual reports of listed firms from 2016 to 2021.

The Independent variable is Audit quality (Audit Firm Size, Audit Fees, and Auditor Independence), the dependent variable is financial performance (ROA) and the Control variables are Firm Growth and Firm Age. The Audit firm size was measured by using the size of the audit firm to determine how well a client's financial statements are audited by a large or small firm. The study rests on the assumption that perhaps the company will obtain a value of "1" if it is audited by one of the Big 4 and a value of "0" if that is so. The Audit fee was measured by using the log of the audit fees paid by the company. The Auditor independence was measured by using the reverse measure of audit independence is calculated using the natural log of audit fees. Poor (good) auditor independence is associated with higher (small) audit fees.

Firm performance is measured using Return on Asset (ROA), ROA was calculated as Earning before Tax and Interest divided by the Total asset for the firm at a given period. Firm Growth is measured as a change in the sale apportioned by previous sales and Firm Age is measured as the number of years of observation minus years of listing.

The following hypotheses were formulated to guide this study:

H<sub>1</sub>: There is a significant positive relationship between audit fees and the financial performance of listed companies in Sri Lanka.

H<sub>2</sub>: There is a significant positive relationship between audit firm size and the financial performance of listed companies in Sri Lanka.

H<sub>3</sub>: There is a significant positive relationship between auditor independence and the financial performance of listed companies in Sri Lanka.

The following equation is considered to be generated by the regression analysis:



$$ROA = \alpha_0 + \beta_1 AUFE + \beta_2 AUSZ + \beta_3 AUIN + \beta_4 FMGR + \beta_5 FMAG + \varepsilon$$

ROA = Financial Performance,  $\alpha(0)$  = Constant, AUFE = Audit Fee, AUSZ = Auditor Size, AUIN = Auditor Independence, FMGR = Firm Growth, FMAG = Firm Age, And  $\varepsilon$  it = the Error term.

## Findings

**Table 1. Regression Analysis**

	Coefficient	Std. Error	t-Statistic	Prob.
AUFZ	0.0635	0.000361	1.760571	0.0289
AUIN	0.43429	0.000122	3.55E+13	0.0000
C	0.00189	0.000169	11.17233	0.0000
FMAG	-0.0022	0.000665	0.33065	0.7411
FMGR	-5E-05	0.000126	0.266342	0.7901
AUFE	4.61E-17	0.000157	0.029449	0.9765
R-squared	0.643	F-statistic		0.0000976
Adjusted R-squared	0.637	Prob(F-statistic)		0.0000

Source: Author Constructed, 2022

Overall, Table 1's outcomes showed that the two research variables were statistically significant when paired with the predictor variable for financial performance (as being measured using ROA). The AUFE and ROA have a positive yet statistically insignificant relationship. Table 1's shows the regression coefficient and p-value of >0.000, and 0.9765 show this to be the case. This indicates that the ROA and AUFE are positively and statistically insignificantly correlated. With both a regression coefficient and p-value of >0.0635 and 0.0289, respectively, AUFZ exhibits a statistically significant and positive relationship with the ROA. Furthermore, data demonstrates that AUFZ is positively and statistically related to the ROA at the 1% significant level. The positive number signifies that if the number of Big4-audited firms rises by a certain percentage, financial performance (ROA) should likewise rise by the same proportion. The relationship between AUIN and ROA is positive and statistically significant in Table 1. Additionally, revealed to still be negatively and statistically significantly related to both the ROA were FMGR and FMAG. This illustrates that there is no significant relationship between FMGR and FMAG and the financial performance of Sri Lankan listed companies.

## Conclusion

The primary aim of the study is always to examine how and why the quality of the audit influence the financial performance of Sri Lankan publicly listed firms. The objective of the research was to examine the impact of Audit Quality on the firm financial performance of listed companies in Sri Lanka. According to the findings of the balanced panel data analysis, two of the variables used in this research, auditor size and auditor independence are significantly and positively related to financial performance as assessed by ROA. It is discovered whether the other variable, Audit Fee, does indeed have a positive and insignificant relationship with ROA. Our

findings are comparable with the agency theory, which states that a company's financial performance enhances when more firms are audited by Big4 firms. Owing to the fact that the Big 4 auditors have a reputation to uphold, it may well be practically challenging to encourage them to behave contrary to the accepted standards of auditing techniques. Moreover, it was found that there is a positive correlation between auditor independence and financial performance simply means that the level of audit services provided will keep increasing in direct proportion to the number of audit fees paid. Audit fees without in any way reflect the objectivity of the auditor, which would be typically thought to reduce the auditor's willingness to challenge management attempts to identify and exploit information abnormalities in the agent-principal relationship. The results of this study are in line with the findings of the research conducted by Abdullahi, (2020).

Given the aforementioned conclusions, this study provides substantial understanding to policymakers and regulators regarding the importance of audit quality in increasing financial performance.

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## **Nexus between integrated reporting and firm performance: evidence from finance sector companies in Sri Lanka**

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### **Introduction**

The increasing complexity of the business sector has resulted in increased expectations on organizations for information on their financial performance, corporate governance, and commitment to building sustainability. However, the economic effects of business innovations and economic developments don't seem to be well captured by the traditional financial reporting paradigm promptly (Healy and Palepu, 2001). Classical financial reporting has been fated by shareholders and stakeholder groups due to the inability of financial reports to explicate the value gap between the book value of equity and the firm market value (Velte, 2021). As traditional corporate reporting mainly depends on financial information, the need for non-financial information came to light as it also contributes to getting the whole picture of business entities. Although sustainability reporting has used for reporting non-financial information of business organizations, those could not be able to satisfy stakeholder needs as expected as sustainability reports were presented separately. However, the separate stand-alone reports are more complicated for the stakeholders to fulfill their need for information on different aspects of the entity (Villiers et al., 2014). Hence integrated reporting came into the corporate reporting field as a new reporting mechanism which is a concise communication about how an organization's strategy, governance, performance, and prospects, in the context of its external environment, lead to the creation, preservation or erosion of value over the short, medium and long term (IIRF,2014).

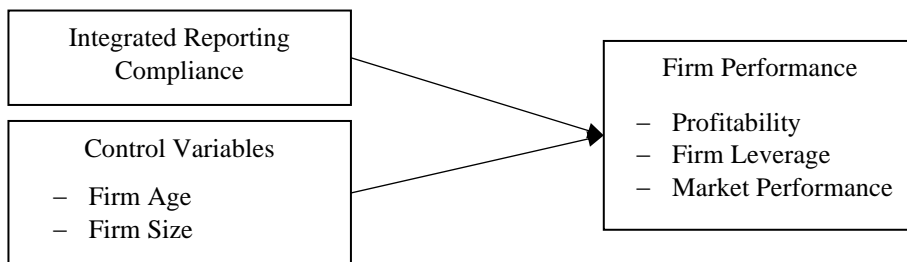
According to Gunarathne and Senaratne (2017), Sri Lanka is currently in the stage of diffusion on IR, with many first-time adopters likely to join the IR bandwagon. The majority of adopters at the diffusion stage are motivated by fashion, which is mostly due to the active propagators on the supply side of IR diffusion, especially the professional accounting bodies. Additionally, businesses that had adopted sustainable practices into their operations have shifted to IR. As stated by Gunarathne and Senaratne (2017), it was emphasized that the high degree of IR adoption in Sri Lanka is due to the abundance of professional accountants, rising stakeholder demands, a supporting accounting profession, fierce competition among organizations helped by award schemes, and helpful accounting professionals. However, the existing literature fails to identify the impact of Integrated Reporting on the firm's performance in Sri Lanka. Therefore, this study aims to examine the impact of integrated reporting and firm performance of listed Finance sector companies in Sri Lanka. Financial companies were selected for the study because financial sector organizations have to

disclose their information according to accepted reporting practices to achieve and maintain public trust and confidentiality.

Since IR is an emerging corporate reporting practice in Sri Lanka, this study has focused on the IR and firm performance of listed finance sector companies in Sri Lanka as there's a vacuum to find out the impact of integrated reporting on the performance of an entity in Sri Lanka. Therefore, the objective of this study was, to investigate the impact of IR adoption on the firm performance of listed finance companies under three performance criteria of profitability, leverage, and market performance.

## Methodology

This study was based on the positivism philosophy and deductive approach using an archival research strategy. All IR adopted Finance Sector companies that are listed in the Colombo Stock Exchange were the population for this research study. The population was considered as the sample. It was revealed that 21 finance companies had adopted IR for their reporting purposes. Data was collected for the years from 2017 to 2020 using annual reports of companies. Panel Regression Analysis was the method of data analysis and utilized E-Views software for data analysis.



**Figure 5. Conceptual Framework**

## Hypotheses

Hypotheses were built as follows:

H1: There is a significant impact of the level of Integrated Reporting compliance on Earning Per Share (EPS) of the firm.

H2: There is a significant impact of the level of Integrated Reporting compliance on the Return of the Equity (ROE) of the firm.

H3: There is a significant impact of the level of Integrated Reporting compliance on the Debt Ratio.

H4: There is a significant impact of the level of Integrated Reporting compliance on the market capitalization.

H5: There is a significant impact of the level of Integrated Reporting compliance on Tobin's Q Ratio.

For the analyzing purpose of the hypotheses, Integrated Reporting has indicated using the Integrated Reporting Index (Adopted from Cooray (2020)) which has measured using the total score received from the index. The dependent variable of profitability has measured using Return on Equity and Earning per Share, Firm leverage using Debt Ratio, Market performance using market capitalization and Tobin's Q Ratio. For the analysis purposes study has used Firm Size and Firm Age as the control Variables.

### ***Research Model***

$$FIRMPERF = \infty + \beta_1 IR + \beta_2 SIZE + \beta_3 AGE + \varepsilon$$

FIRMPERF- Firm Performance (ROE, EPS, LEV, MCAP, TBQ),  $\infty$  - Constant, IR - IR Index,  $\beta_{1-3}$  - Regression coefficients for respective variables, Size - Firm Size, Age - Firm Age

### **Findings**

#### ***Descriptive statistics***

Descriptive statistics summarize the data and provide valuable acumens to understand data.

**Table 1. Descriptive Statistics**

	<b>IR Index</b>	<b>Debt Ratio</b>	<b>EPS</b>	<b>Firm Age</b>	<b>Firm Size</b>	<b>LN Mcap</b>	<b>ROE</b>	<b>Tobin's Ratio</b>
Mean	93.006	0.840	21.089	23.595	25.065	22.533	14.858	20.616
Median	95.000	0.874	11.575	20.000	25.091	22.594	13.060	8.544
Maximum	97.500	1.660	171.010	64.000	28.183	25.707	79.500	133.906
Minimum	65.000	0.294	-4.830	1	21.142	16.301	-70.400	0.294
Std.Dev	5.908	0.182	31.223	17.521	1.816	2.097	16.341	28.616

The average value of the index is 93% which is a high level of adoption of Integrated Reporting. Results indicate that sample companies have provided information according to the given guidelines in the IIRF when preparing Integrated Annual reports.

#### ***Regression Analysis***

The panel regression model was used to analyze the data of the study and the dependent variable of this study is the firm performance which consists of profitability, firm leverage, and market performance. Considering the dependent variables of the model profitability is measured by ROE and EPS, firm leverage is measured by debt ratio, and market performance is measured by Tobin's Q ratio and market capitalization. Therefore, the analysis was done using five regression models.

This study performed the Hausman test to identify the most appropriate regression model (Fixed Effect Model or the Random Effect Model) to analyze the panel data.

**Table 2. Regression Analysis**

	<b>Model 01 (EPS)</b>		<b>Model 02 (ROE)</b>		<b>Model 03 (LEV)</b>		<b>Model 04 (MCAP)</b>		<b>Model 05 (TBQ)</b>	
	Coeffi cient	P value	Coeffi cient	P value	Coeffi cient	P value	Coeffi cient	P value	Coeffi cient	P value
Constant	-116.281	0.263	-43.691	0.363	8.407	0.00	8.091	0.211	-303.643	0.035
IR Index	0.806	0.0749	0.889	0.007	-0.001	0.622	-0.005	0.807	-0.119	0.675
Firm Size	2.788	0.489	-0.884	0.603	-0.333	0.000	0.586	0.024	16.320	0.006
Firm Age	-0.317	0.455	-0.086	0.623	0.040	0.004	0.010	0.691	-3.123	0.004

According to the regression analysis, model 2 (ROE) depicts a strong positive impact of the IR index on the ROE.

$$ROE = -43.691 + 0.889IR - 0.884SIZE - 0.086AGE + \varepsilon$$

Hypothesis H2 of the study can be accepted, and it has proved that there is a significant relationship between the level of Integrated Reporting compliance and the Return on the Equity (ROE) of the firm. But as per this regression model, firm size and firm age have negative coefficients of -0.884 and -0.086, respectively, and they both are not significant at the 5% confidence level as their probability values are 0.063 and 0.623, respectively.

## Conclusion

The main objective of this research was the identifying the impact of integrated reporting on the performance of Sri Lankan listed finance companies. Results revealed that there's no significant relationship between integrated reporting adherence and earnings per share of financial sector companies in Sri Lanka. However, the profitability measure of Return on Equity has resulted in a significant impact on IR adherence of finance factor companies in Sri Lanka. Islam (2020) and El-Deeb (2019) also revealed that the ROE and integrated reporting have a positive significant association indicating that companies which have adopted IR generate higher returns on shareholder equity. Further, this study found that there's no significant impact of IR adoption on the firm's leverage which is measured using the debt ratio. Previous researchers have obtained mixed results for the relationship between IR adoption and firm leverage. Islam (2020) found that financial leverage and the disclosure of IR are negatively correlated, due to limitations imposed by the finance providers, highly leveraged enterprises may not have the freedom from their management to share information in detail, which could account for this result. However, El-Deeb (2019) discovered that there's no significant relationship between IR and firm leverage. Furthermore, this study found that IR adoption has no significant impact on both measures of market performance (Tobin's Q and Market capitalization). However, in contrast to this result, El-Deeb (2019) found that there's a positive significant impact of the IR on market performance within the companies listed in Egypt's stock market.

This study has various repercussions and makes several useful contributions to the IR literature. First, the study adds to earlier research pertaining to developed countries by improving an understanding of the relationship between IR and firm financial

performance in developing countries. Second, it provides useful information to shareholders, investors, and other stakeholders who take IR into account when making decisions. This study expands the scarce empirical evidence on IR disclosure research by addressing how IR has impacted the performance of the finance sector in Sri Lanka, directing in three aspects of profitability, leverage, and market performance.

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## **The impact of intellectual capital on corporate sustainable growth: evidence from listed companies in Sri Lanka**

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### **Introduction**

Identification and measurement of intellectual capital are not easy, the concept of intellectual capital has enhanced in the last two decades and it is getting much attraction in the business world (Stahle et al., 2011). Value creation is the process that provides a pathway to the sustainable growth of any business. Managing and allocating of resources are the facts that determine the sustainable corporate growth. There are two main types of resources, they are tangible and intangible resources. Tangible resources can be seen and measured but intangible assets measurement is a strategical task that identifies with accurate figures and valuation of the enterprise in this dynamic competitive knowledge-based economy (Campisi & Costa, 2008).

The main research problem of the study is to identify whether there is an impact of intellectual capital on a firm's corporate sustainable growth in Sri Lanka. The objectives of this study are to examine the relationship between components of intellectual capital and corporate sustainable growth among listed companies in Sri Lanka. To examine the relationship between capital employed and corporate sustainable growth among listed companies in Sri Lanka.

To measure Intellectual Capital, scholars tested various models namely, Balanced Scorecard Theory, Knowledge assets map approach, Skandia navigator, Resource-Based Theory, and Value Added Intellectual Coefficient model. In this study, the Modified Value Added Intellectual Capital model was used to calculate intellectual capital. Ante Pulic introduced intellectual capital to identify economic values, value-added (VA), capital employed (CE), Human Capital (HC), and Structural capital (SC) are used in the Value Added Intellectual Capital (VAIC) index. The modified version of the VAIC model was studied and employed by several scholars using Modified VAIC model. This study measures the impact of corporate sustainable growth with four components of intellectual capital using the Modified M-VAIC model.

Several studies can be found in the literature that investigates the impact of intellectual capital on corporate sustainable growth. Mukherjee & Sen (2019) study Intellectual Capital and Corporate Sustainable Growth: The Indian Evidence using the M-VAIC model. It demonstrates a significant impact on corporate sustainable growth. Xu & Wang (2018) found that intellectual capital has a positive impact on financial performance and companies' sustainable growth. Lu et al. (2021) studied the relationship between IC and Sustainable growth, and also tested the Competitive



Advantage as mediating variable between them. The results proved that IC plays a significant role in the corporate of Chinese and Pakistani firms.

## Methodology

A deductive approach and quantitative; archival research strategy is used throughout the study. For this study, the population is 281 listed companies with 4,142,575,868,156 market capitalization as of 2<sup>nd</sup> September 2021. In this study, the sample size is 164 listed companies which are derived from the Morgan table and the sampling method is a random sampling method. This study collected data from annual reports within the period of the last six years, from 2014 to 2019. The firm size and leverage used as control variables for this study.

The hypotheses of this study depend on the argument that the IC impacts SG. According to the empirical evidence mentioned (Xu and Wang, 2018; Lu *et al.*, 2021) there is a significant positive relationship between IC and SG. By considering the previous findings, the main hypotheses for this research are proposed as;

H1: There is a significant positive effect of capital employed on corporate sustainable growth.

H2: There is a significant positive effect of intellectual capital on corporate sustainable growth.

H2a: There is a significant positive effect of human capital on corporate sustainable growth.

H2b: There is a significant positive effect of structural capital on corporate sustainable growth.

H2c: There is a significant positive effect of relationship capital on corporate sustainable growth.

These hypotheses were tested using descriptive statistics, correlation analysis, and regression analysis.

## Findings

**Table 1. Descriptive Statistics of the Dependent and Independent Variables**

Variable	Obse	Mean	Std. Dec.	Min	Max
Capital Employed	920	0.40	2.85	(16.78)	76.53
Human Capital	920	8.63	31.48	(70.14)	297.64
Structural Capital	920	0.62	2.67	(27.93)	51.93
Relational Capital	920	0.37	2.46	(15.73)	55.13
Sustainable Growth	920	0.10	0.36	(3.17)	7.78
Firm size	920	20,421.61	76,223.90	1,342.21	962,350.50
Leverage	920	(0.28)	21.24	(643.87)	1.63

The outcomes of the studied data are presented in this section. The analysis is carried out with the help of the STATA econometrics software. In the descriptive statistics section, the central tendency of the model is determined meaning how the sample data is distributed from the range of minimum to maximum of the variables. Table 1 shows the descriptive data of the study.

**Table 2. Regression table**

	<b>Coefficient</b>	<b>Std. Err.</b>	<b>t</b>	<b>P &gt; t</b>
CEE	0.143	0.004	0.790	0.012
SCE	0.131	0.000	2.270	0.023
HCE	0.120	0.005	0.160	0.030
RCE	0.013	0.005	0.220	0.824
cons	0.091	0.013	6.920	0.698

Table 2 depicts the regression results. The hypotheses are tested as follow;

H1: There is a significant positive effect of Capital Employed on Corporate Sustainable Growth.

The results imply that Capital Employed had a positive significant effect on Corporate Sustainable Growth at a 5% significant level, therefore 1-unit increase in Capital Employed Efficiency, leads to increase in Corporate Sustainable Growth by 0.143 unit. Therefore, null hypothesis is rejected and alternative hypothesis is accepted.

H2: There is a significant positive effect of Intellectual Capital on Corporate Sustainable Growth.

H2a: There is a significant positive effect of Human Capital on Corporate Sustainable Growth.

The coefficient is positive, with the value of Human Capital efficiency Index ( $\beta = 0.131$ ,  $P = \text{value } 0.023$ ) There is a significant positive impact of Corporate Sustainable Growth under 0.05 level of significant. Therefore 1-unit increase in Human Capital Efficiency, leading to increase in Corporate Sustainable Growth by 0.131 units. As per the results null hypothesis is rejected.

H2b: There is a significant positive effect of Structural Capital on Corporate Sustainable Growth.

As revealed by the beta coefficient value and P-value of ( $\beta = 0.120$ ,  $P \text{ value} = 0.030$ ), Structural Capital Efficiency had a positive significant effect on Corporate Sustainable Growth at a 5% significant level. As a result, a one-unit rise in Structural Capital resulted in a 0.120-unit increase in Corporate Sustainable Growth. As per the results null hypothesis is rejected.

H2c: There is a significant positive effect of Relational Capital on Corporate Sustainable Growth.

As revealed by the beta coefficient value and P-value of ( $\beta = 0.013$ ,  $P \text{ value} = 0.824$ ), Relationship Capital Efficiency had a positive insignificant effect on Corporate

Sustainable Growth at a 5% significant level. As per the results null hypothesis is accepted due to P-value is more than 0.05.

## Conclusion

Based on the regression results, the coefficient of determination,  $R^2 = 0.532$  indicates that almost all the variations that exist in the dependent variable are explained by the model. It means that the independent variables explain 53.2% of the variability of corporate sustainable growth. According to the regression model, intellectual capital has a considerable significant impact on corporate sustainable growth in listed companies in Sri Lanka.

The finding of the study contributes to the literature on intellectual capital and corporate sustainable growth by revealing the impact of intellectual capital and its components on corporate sustainable growth in Sri Lanka. This study provides a general framework for researchers and management to further research. The first beneficiaries of this study will be the management that provide new insights on determinants of corporate sustainable growth within their organizations. It helps to understand resource allocation decision making and long-term planning. And also it provides insight measure about the value of human resources to ensure sustainable growth, that also beneficial for corporate managers to make decisions on human capital for attaining sustainable growth within the competitive business world.

This research focused on only six years to collect the data. The study was concerned only with the period from 2014 to 2019. So future researchers can do research in the future by expanding the sample and collecting data for more than seven years. This study only considered four components of Modified Value Added Intellectual Capital to measure intellectual capital but this study can be done by adding more components like Research and Development Efficiency and Process Efficiency. This study concerned only secondary data but it can be expanded using both primary and secondary data. By that, they will be able to get a better and more reliable opinion about the impact of intellectual capital on corporate sustainable growth.

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# *Entrepreneurial Finance and Small Business Management*

## **Impact of financial planning on enterprise risk management in Small and Medium Enterprises (SMEs) in Sri Lanka: A special reference to Colombo district**

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### **Introduction**

Small and Medium Enterprises (SMEs) are the backbone of any country and play a huge role that should be considered. Although SMEs are growing in high they face many challenges that they are led to work against their successes. Financial planning is a very important survival tool both in the corporate and SME world (Musando, 2013). White Paper, (2002) said that poor finances and management during the life of the business cause issues for small and business owners. If the financial planning is outdated, then the financial planning remains disconnected from risk management. So, executives need to conduct dynamic financial planning as a top-down, strategic examination addressing the drivers and core material risks of the organization (Schmitz, 2015). It is hard to find the research which was done to show the relationship between financial planning and ERM in SMEs. This study is to identify the impact of financial planning on Enterprise Risk Management (ERM) in SMEs in the Colombo district. So the scope of this study will limit only to the selected SMEs in the Colombo district.

The general objective of this study is "To identify the impact of financial planning on ERM in SMEs in the Colombo district". Accordingly, the main independent variable of the study is financial planning and main dependent variable is ERM. Financial planning includes Budgeting, Preparation of Financial Statements, and Financial Analysis, while ERM includes Financial Risk Management and Inventory and Production Risk Management.

Align with that general objective, the specific objectives that the researcher has identified are as follows.

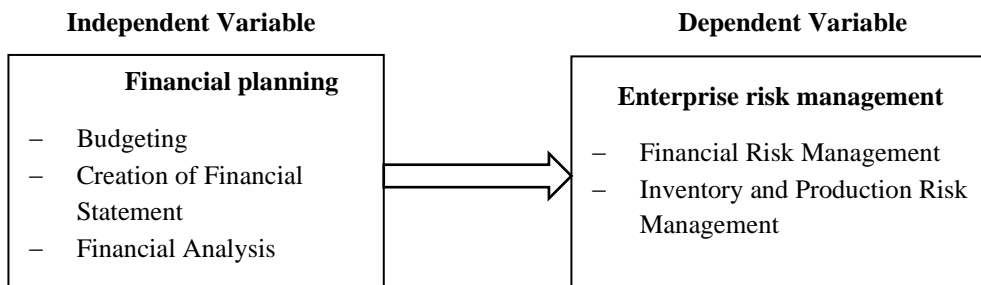
- a) To identify the impact of Budgeting on ERM in the SMEs in the Colombo District.
- b) To examine the impact of the Preparation of Financial Statements on ERM in the SMEs in the Colombo District.
- c) To observe the impact of Financial Analysis on ERM in the SMEs in the Colombo District.

As Ariyo, et al., (2020) described, financial planning refers to the process of developing a solid and detailed target for an organization's functions, departments, and operations. According to Musando (2013), financial planning is required to

monitor and indicate a company's financial capability over time. Further, it has indicated the majority of SMEs engaged in financial planning practices such as periodical budget estimations, activity-based budgeting, Preparation of financial statements, and financial analysis. Financial planning is a fundamental tool for SMEs, regardless of their economic activity (Arena, Arnaboldi, & Azzone, 2010). ERM is quickly becoming the new minimum standard, and it may well be the key to survival for many companies (Tamošiūnienė & Saveuk, 2007). According to past studies, there are many researches that show the relationship between financial planning and firm performance and also that shows the relationship between ERM and firm performance, but it is hard to find the research, which was done to show the relationship between financial planning and ERM in SMEs. So, this study is to fulfil the research gap between financial planning and ERM in SMEs in Sri Lanka.

## Methodology

The main independent variable of the study is financial planning and main dependent variable is ERM. Financial planning includes Budgeting, Preparation of Financial Statements and Financial Analysis while ERM includes Financial Risk Management and Inventory and Production Risk Management. The relationship among variables is presented in the Conceptual Framework given below.



**Figure 1: Conceptual Framework**

*Source: Author Constructed, 2022*

Research philosophy of this study is positivism. There are three hypotheses that have been developed and tested by collecting data, it involved the deductive approach. Primary data is the mode of quantitative data taken for this study. Since the population is unpredictable due to the lack of reliable information, convenience sampling techniques has used to select the sample. To gather primary data well-structured questionnaire was used. The researcher used the survey method to conduct the research. The results of this study belong to cross-sectional studies. 100 responses of SME owners of the Colombo district have been used to analyze by using SPSS software.

The hypothesis that the researcher has developed to test the impact of independent variables on dependent variables are as follows.

H1: There is a positive impact of Budgeting on ERM of the SMEs in Colombo District.

H2: There is a positive impact of the Preparation of Financial Statements on ERM of the SMEs in Colombo District.

H3: There is a positive impact of Financial Analysis on ERM of the SMEs in Colombo District.

## Findings

The Cronbach's Alpha value of Budgeting is 0.761, Preparation of Financial Statements is 0.844 and, Financial Analysis is 0.799, and Cronbach's Alpha value of ERM is 0.764. KMO value of independent variables; 0.728 for Budgeting, 0.797 for Preparation of Financial Statements, and, 0.704 for Financial Analysis and for ERM is 0.743. The mean value of Budgeting is 4.067, 4.112 for Preparation of Financial Statements, and 4.063 for Financial Analysis while the standard deviations are 0.606, 0.607, and 0.692, respectively. The mean value of ERM is 4.106, and standard deviation is 0.560.

**Table 1. Summary of Correlation Analysis**

Pearson Correlation	Budgeting	Preparation of Financial Statements	Financial Analysis	ERM
Budgeting	1	0.540	0.638	0.692
Preparation of Financial Statements	0.540**	1	0.549	0.620
Financial Analysis	0.638**	0.549**	1**	0.730
ERM	0.692**	0.620**	0.730**	1

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

Source: Author Constructed, 2022

According to Table 1, the correlation coefficient signs of all independent variables are positive. Pearson correlation significant value for the Budgeting and ERM is 0.000. Since it is less than 0.05 ( $p < 0.05$ ), there is a significant relationship between Budgeting and ERM. The Coefficient correlation is positive 0.692 and which means, there is a significant positive relationship between Budgeting and ERM. So H1 is accepted. So as the other H2 and H3. They also accepted since Pearson correlation significant value for both Preparation of Financial Statements and Financial Analysis are also 0.000 and coefficient correlation are positive.

When considering the regression analysis; the Coefficient of determination ( $R^2$ ) value of this study is 0.65. It means 65% of the dependent variable (ERM) is explained by the independent variable (Financial Planning). Only 35% is explained by other factors. Since it is more than 50% this model describes reasonably well.



**Table 2. Regression Analysis Summary of Financial Planning**

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
	1 (Constant)	0.736	0.263		
Budgeting	0.286	0.075	0.309	3.788	0.000
Preparation of Financial Statements	0.212	0.069	0.230	3.050	0.003
Financial Analysis	0.329	0.067	0.407	0.407	0.000

Source: Author Constructed, 2022

### ***Hypothesis Testing***

H1: There is a positive impact of Budgeting on ERM in SMEs in the Colombo District.

According to Table 2, the significant value of the Budgeting is 0.000. Since it is less than 0.05 ( $p < 0.05$ ), there is a significant impact of Budgeting on ERM. The beta value of Budgeting is positive 0.286 and it means there is a significant positive impact of Budgeting on ERM. So H1 is accepted.

H2: There is a positive impact of the Preparation of Financial Statements on ERM in SMEs in the Colombo District.

According to Table 2, the significant value of the Preparation of Financial Statements is 0.003. Since it is less than 0.05 ( $p < 0.05$ ), there is a significant impact of the Preparation of Financial Statements on ERM. The beta value of Preparation of Financial Statements is positive 0.212 and it means, there is a positive significant impact of Preparation of Financial Statements on ERM. So H2 is accepted.

H3: There is a positive impact of Financial Analysis on ERM in SMEs in the Colombo District.

According to Table 2, the significant value of the Financial Analysis is 0.000. Since it is less than 0.05 ( $p < 0.05$ ), there is a significant impact of Financial Analysis on ERM. The beta value of Financial Analysis is positive 0.329, and it means there is a significant positive impact of Financial Analysis on ERM. So H3 is accepted.

### **Conclusion**

According to the findings, it can be concluded that all three hypotheses developed by the researcher had been tested and accepted in accordance with the regression analysis. In correlation analysis also all three hypotheses were accepted. It indicates that financial planning is having a positive impact on ERM in the SMEs in the Colombo district. Also, the gap that aroused between financial planning and ERM in SMEs in Sri Lanka is fulfilled by this study.

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**Relationship between accounting record-keeping practices and financial performance of small and medium enterprises in Sri Lanka (Special reference to small and medium enterprises in Colombo district)**

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## **Introduction**

The main intention of this study is to investigate the relationship between accounting record-keeping practices and the financial performance of Small and Medium Enterprises (SMEs) in Sri Lanka. SMEs are considered as springs in the economy. So, it is important to protect them. But most SMEs have a short-term business life cycle at present. Insufficient funding, Poor technology adoption, lack of expert knowledge, and avoiding account record keeping practices are reasons for the failures. Among them researcher basically focused on accounting record keeping practices of SMEs in Sri Lanka.

Bookkeeping is the recording of financial transactions. Transactions include sales, purchases, income, and payments by an individual or organization (Ademola et al., 2012). This book keeping is a main activity among other accounting activities. Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. Sometimes it describes as the ability of a business to meet the required standards, annual sales limit, profitability, market share, and others. Through this study researcher identified 'Is there a relationship between accounting record-keeping practices and the financial performance of SMEs?' Because of that reason, this study is more compatible with the current period. It will grab a wide range of practical applicability because of the high volume of beneficiaries. The research objectives and questions of the study are given in Table 1.

Abdul-Rahaman & Adejare (2014) research showed that the majority of respondents did not maintain thorough accounting records. However, quantify their profitability inexactly and lacked annual financial statements as well as budgets. He advised small business owners and managers to adopt adequate accounting procedures for record-keeping to achieve successful financial performance. As per the study carried out by Rathnasiri (2014); the result demonstrates that the highest importance was placed on the preparation and monitoring of the cash flows and many Sri Lankan entrepreneurs maintain financial statements for the day-to-day operative requirements and they don't have accomplished statutory obligations. Because of these failures organizations has to take poor financial decisions and low performance with high failure rates.

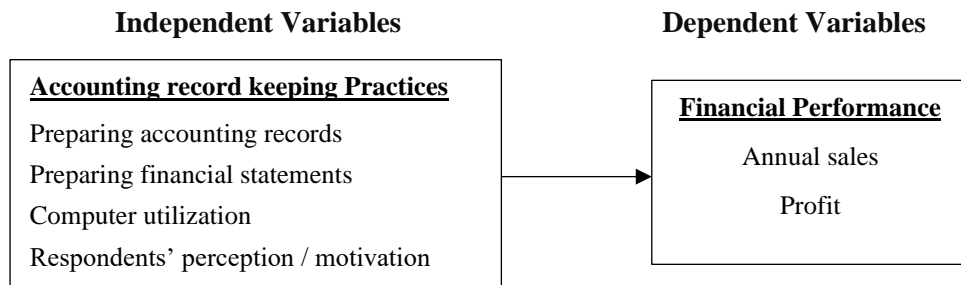
**Table 1. Research Objectives and Questions**

<b>Objectives of the study</b>	<b>Research Questions</b>
1. To investigate the relationship between accounting record-keeping practices and the financial performance of SMEs.	1. Is there a relationship between accounting record-keeping practices and the financial performance of SMEs?
2. To examine whether the relationship between preparing financial statements and the financial performance of SMEs	2. Is there an association between preparing financial statements and the financial performance of SMEs?
3. To explore the relationship between computer utilization and financial performance in SMEs	3. Is there a relationship between computer utilization and the financial performance of SMEs?
4. To study the relationship between respondents' perception/motivation and the financial performance of SMEs.	4. Is there an association between respondents' perception/ motivation and the financial performance of SMEs?

*Source: Author Developed, 2022*

## Methodology

As the proxies of the accounts record keeping; preparing accounting records, preparing financial statements, computer utilization, and respondents' perception/motivation. The firm's profitability and firm annual sales are used as the dependent variables to measure financial performance. The link between these variables is presented in Figure 1.



**Figure 1. Conceptual Framework**

The researcher presented specific information regarding the sample and generalized the outcomes to the population. So primary data was collected through the Questionnaire. After obtaining data through the questionnaire study followed a specific plan to analyze the obtained data. So, this analysis design explains how the study will be carried out. This design consisted with descriptive, correlation, Quasi-experimental, and experimental types. The descriptive statistic method helps to identify SME holders' data location and data dispersion. The correlation method clearly describes the relationship between variables. Quasi-experimental research looks at a situation or a problem to figure out what is going on.

The researcher had to deal with an unpredictable population because of the unavailability of information. So, preparing a specific sampling frame for a study was difficult. So, when selecting the sample frame researcher had to face these constrain. However, the researcher guided information from the Industrial development board of Ceylon. The Industrial Development Board of Ceylon has registered a list of small and medium enterprises. From that researcher selected 100 amount of sample based on a matter of judgment in the Colombo district based on a simple random sampling technique. The study primarily employed a quantitative approach. Collected data were analyzed through SPSS statistical package. Multiple regression analysis was used to identify the impact on accounts records keeping practice and firm performance. By using that researcher tested the main 04 below-mentioned hypotheses.

H1: There is a relationship between preparing accounting records and the financial performance of SMEs.

H2: There is a relationship between preparing financial statements and the financial performance of SMEs.

H3: There is a relationship between computer utilization and the financial performance of SMEs.

H4: There is a relationship between respondents' perception/motivation and the financial performance of SMEs

## **Findings**

### ***Correlation Analysis***

According to the correlation analysis, there was a positive relationship between all dependent and independent variables. It simply means that preparing accounting records, preparing financial statements, Computer utilization for record-keeping, and respondents' perceptions have positively related to SMEs' financial performance. Pearson correlation values were 0.565,0.637,0.736, and 0.659, respectively, between above mention variables. All variables were significant at a 0.05 level because of the 0.000 P value.

### ***Regression analysis***

The coefficient of determination or R square value was 0. 591. It represented that 59.1% variation was explained by the model. It means 59.1% explain the dependent variable by using the independent variables.

Regression analysis was used to identify the impact of variables. According to the Beta values of the above table, there was a negative relationship between preparing financial statements and firm performance. But all other variables had a positive relationship with firm performance. According to the table, the preparing accounting records variable was not significant at 0.05 level. Because it has a 0.67 value. but it was significant at a 0.1 level. Preparing the financial statement variable was not significant at any level because of the 0.471 value. But Computer Utilization for the

record-keeping variable was significant at both 0.1 and 0.05 levels because the value was less than both levels. It was a 0.000 value. As Respondents' perception/motivation is also not significant at 0.05 level because its P value was 0.062 value. But this variable is also significant the at 0.1 level.

**Table 6. Table of coefficients**

Model	Unstandardized coefficients		Standardized coefficients		Sig.
	B	Std.Error	Beta	t	
(Constant)	1.029	.338		3.042	.003
Preparing accounting records	.179	.097	.160	1.851	.067
Preparing financial statements	-.081	.112	-.099	-.724	.471
Computer utilization	.404	.089	.568	4.548	.000
Respondents' perception/motivation	.200	.106	.222	1.888	.062

The researcher developed the below-mentioned Statistical model to estimate the variation of Y depending on the values of X variables.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

$$Y = 1.029 + .179 X_1 - .081 X_2 + .404 X_3 + .200 X_4 + e$$

Y = Financial performance measured by Annual sales and profit,  $\alpha$  = Constant term,  $\beta_1$ -5 = Beta coefficients, X1 = Preparing accounting records, X2 = Preparing financial statements, X3 = Computer utilization, X4 = Respondents' perception/motivation,  $e$  = Error term

Other than that researcher tested the main 04 hypotheses based on the above-mentioned P values. The first hypothesis, "There is a relationship between preparing accounting records and financial performance", was rejected because of the poor impact of preparing accounting records on the financial performance of SMEs. The second hypothesis, "There is a relationship between preparing financial statements and financial performance of SMEs", was rejected because of the poor impact of preparing financial statements on the financial performance of SMEs. So null hypotheses were accepted in both scenarios. "There is a relationship between computer utilization and the financial performance of SMEs" was accepted because of ICT usage in the organization makes a significant positive impact on business performance. "There is a relationship between respondents' perception/motivation and financial performance of SMEs" was rejected because of SMEs prepare accounting records for fulfilling statutory requirements, financing requirements, and day-to-day requirements, not to measure firm performance.

## Conclusion

According to the correlation analysis, there is a positive relationship between all dependent and independent variables. It simply means that by preparing accounting records, preparing financial statements, and Computer utilization for record keeping, respondents' perception has positively related to their financial performance. All variables are significant at a 0.05 level, which is also a good indicator of the study. Regression analysis was used to identify the impact of variables. Researchers concluded that many variables impact the firm performance than preparing accounting records, preparing financial statements, and respondents' perception/motivation toward the SMEs. But study findings revealed that there is a significant positive impact on computer utilization and the financial performance of SMEs. Accordingly, SMEs should focus on computer utilization than manual techniques. It facilitates efficient and effective decision-making, and it enhances the performance of SMEs. Since this study covered the relationship between accounting record-keeping practices and the financial performance of SMEs, further studies are recommended on other factors influencing financial performance among SMEs. Other than that Study suggests It is important to develop a nationally acceptable definition for SMEs, and it may benefit from different perspectives, such as measuring the performances.

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## **The nexus between bookkeeping and financial performance of the small and medium enterprises in Sri Lanka**

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### **Introduction**

Small and medium-sized firms (SMEs) play a vital part in the economic development of a country. SMEs can quickly accomplish growth by creating large job opportunities, utilizing local resources, providing public revenue through tax, redistributing income, and contributing to elevating poverty (Ajao, Oyeyemi, & Moses, 2016). Further, in any economy, SMEs ensure to facilitate a larger proportion of economic activities. Since SMEs are independently owned and operated, entrepreneurs can use SMEs as an approach to becoming self-employed. Moreover, we observed that most millennials and generation Zs are turning to self-employment, focusing on new startups, as an alternative to white-collar jobs.

Even though there is a mushrooming trend of SMEs, the sustainability of such businesses has become more vulnerable. Padachi (2006) categorized the causes of SME failures as internal and external; identified accounting systems as a potential internal failure factor. We believe that using the information to make the right decisions at right time is the key to success. Albeit, having adequate records would facilitate business owners with the necessary information to measure the accurate net profit, determine the correct financial status of the business, and decide the future of the business (Ajao, Oyeyemi, & Moses, 2016). Yet, SMEs rarely practice gathering data and converting them into meaningful information. Eloho, Atu, & Atu (2016) confirmed that the misuse and delayed accounting information, inaccuracy of accounting information, and poor record-keeping practices lead to an erroneous assessment of financial status and poor financial decisions in SMEs.

Besides, studies observed that most SMEs maintain their transaction records in single entries (Chelimo & Sopia, 2014). Yet, the scope of accounting record keeping can be extended from single entry to double entry and further to computerized accounting systems. We refer to these three (03) record-keeping practices as "bookkeeping" in this study. Further, we limit the firm performance to financial performance.

So far, we have highlighted the significance of accounting information for the better performance of businesses. However, the studies revealed that SMEs are less interested in collecting data and converting them to information by using bookkeeping practices. Aladejebi & Oladimeji (2019); Maseko & Manyani (2011) found that most SME owners lack basic accounting knowledge and skills, which drive them to refrain from keeping records or keep the records manually. Yet, we observed SMEs are



improving their performance with or without record-keeping practices. Meanwhile, some studies revealed a strong positive relationship between accounting record-keeping and small-scale enterprise performance (Abdul-Rahamon & Adejare, 2014; Musah, 2017; Owusu, Assabil, & Asare-Kyire, 2015). In contrast, Chepkoech & Nassiuma (2019) confirmed a negligible relationship between record-keeping and SME performance, implying that small businesses ignore record-keeping.

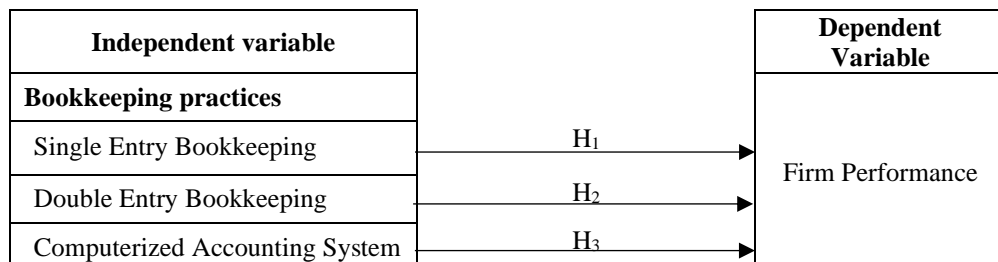
Since the existing literature is in contrast with our observations, we aimed to study whether bookkeeping practices influence SME performance by focusing on SMEs in Sri Lanka. Further, the bookkeeping practices and the performance of small and medium-sized enterprises have rarely been studied and are underappreciated in the Sri Lankan context. As a result, we expect to fill the existing gap in the literature by examining whether there is an association between bookkeeping practices and the performance of small and medium-sized businesses in Sri Lanka. Through the results of this study, we expect to recommend the most suitable bookkeeping system for Sri Lankan SMEs to enhance their business performance.

## Methodology

Based on the problem statement of the study, research questions are developed as follows,

- Whether there is a relationship between bookkeeping and the performance of small and medium enterprises in Sri Lanka?
- What is the impact of bookkeeping practices on the performance of small and medium-sized enterprises in Sri Lanka?

In general, the conceptual framework depicts the entire present study, demonstrating the relationship between variables. According to the literature review, bookkeeping practices are considered an independent variable, while SME performance is considered a dependent variable. As a result of the facts identified in the literature review summary, the researcher has developed the conceptual framework for the research study as follows.



**Figure 1. Conceptual model of the study**

This study adopted a deductive research approach and conducted a quantitative analysis to test the developed hypothesis. By following the survey strategy, we

collected the data by using a Likert scale questionnaire. Since the complete data on the population was not ascertainable, we decided to follow the non-probabilistic sampling. Accordingly, the study used a convenient sampling technique to collect data from respondents. We determined the sample size based on Morgan & Krejcie (1970) with a 95% of confidence level, comprising 385 SMEs. With the support of literature, we derived three (03) hypotheses:

H<sub>1</sub>: There is a positive significant relationship between single-entry bookkeeping and the firm financial performance of SMEs in Sri Lanka.

H<sub>2</sub>: There is a positive significant relationship between double-entry bookkeeping and the firm financial performance of SMEs in Sri Lanka.

H<sub>3</sub>: There is a positive significant relationship between the computerized accounting system and firm financial performance of SMEs in Sri Lanka.

## Findings

The sample of the study comprises 202 male and 183 female entrepreneurs. All respondents fall into the generation X and Millennial age categories. 58% of respondents have tertiary education qualifications, while 42% have completed their secondary-level education.

**Table 7. Reliability Statistics**

Variable	Cronbach's Alpha	N of Items
Single Entry Bookkeeping (SEB)	0.832	5
Double Entry Bookkeeping (DEB)	0.894	4
Computerized Accounting System (CAS)	0.862	4
Firm Performance (FP)	0.901	5

To measure the single-entry bookkeeping and firm performance, we used five (05) Likert items, while for double-entry bookkeeping and computerized accounting systems we used four (04) Likert items. We tested the reliability of the data using Cronbach's Alpha statistic. The results confirmed that there is strong reliability between the questions used in the study when defining the variables. The higher composite reliability coefficients (SEB = 0.852, DEB = 0.929, CAS = 0.579, FP = 0.929) further confirmed the internal consistency of the scaled items of each variable. The construct validity of the main variables was tested by using convergent validity and discriminant validity of these Likert items. The correlation of the Likert items of each variable is above 0.5 and significant at level 0.01. Also, the correlation of the Likert items of different variables is below 0.5 and significant at level 0.01. Accordingly, we confirmed the existence of the convergent validity and the discriminant validity among the Likert items.

Meanwhile, the KMO statistic of 0.709 confirmed that the sample size is sufficient to conduct the analysis further. Thus, we obtained the results of the multiple regression model for further analysis.

**Table 8: Regression Results**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.342	0.169		7.944	0.000		
1 SEB	0.211	0.051	0.198	4.122	0.000	0.607	1.649
DEB	-0.161	0.046	-0.187	-3.543	0.000	0.499	2.004
CAS	0.654	0.052	0.672	12.505	0.000	0.484	2.067

a. Dependent Variable: FP

The regression results confirmed a significant positive relationship between single-entry bookkeeping, computerized accounting system, and firm financial performance. Also, confirmed a negative significant relationship between double-entry bookkeeping and firm financial performance. Accordingly, we accept all the hypotheses derived for the study; yet we conclude the direction of the H<sub>2</sub> as negative. The Variance Inflation Factor (VIF) detected weak multicollinearity among explanatory variables. Thus, the conclusions made through this model are independent from one another.

## Conclusion

The objective of the study was to study whether bookkeeping practices influence SME performance by focusing on SMEs in Sri Lanka. Accordingly, we divided the bookkeeping practices into three (03) Single Entry Bookkeeping (SEB), Double Entry Bookkeeping (DEB), and Computerized Accounting System (CAS). We collected the data using a Likert scale from 385 SME owners and the collected data was used to test the hypothesis derived.

As per the findings of the study, we confirm that by adopting to single entry bookkeeping system and/or computerized accounting systems, SMEs can improve their financial performance significantly. Thereby, we can recommend SMEs use either of these record-keeping systems to evaluate their business performance promptly. However, the double-entry bookkeeping systems show inverse results. As per the findings, the adoption to double entry bookkeeping systems would degrade the financial performance of SMEs significantly. We rationalize this finding since the prior studies found a basic accounting knowledge gap among SME owners (Aladejebi & Oladimeji, 2019; Maseko & Manyani, 2011). Even though accounting skills are necessary to maintain a double-entry bookkeeping system manually, due to lack of knowledge the SME owners must incur a cost to hire a skilled person to maintain such records ultimately leading to an increase in the cost factor of the business.

In conclusion, we confirm a nexus between the bookkeeping systems and SME performance in the Sri Lankan context. Meanwhile, we recommend future studies to identify the root causes for the negative relationship between double-entry bookkeeping and SME performance.

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## **Personality types and investment intentions of the small & medium scale entrepreneurs (SMEs)**

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### **Introduction**

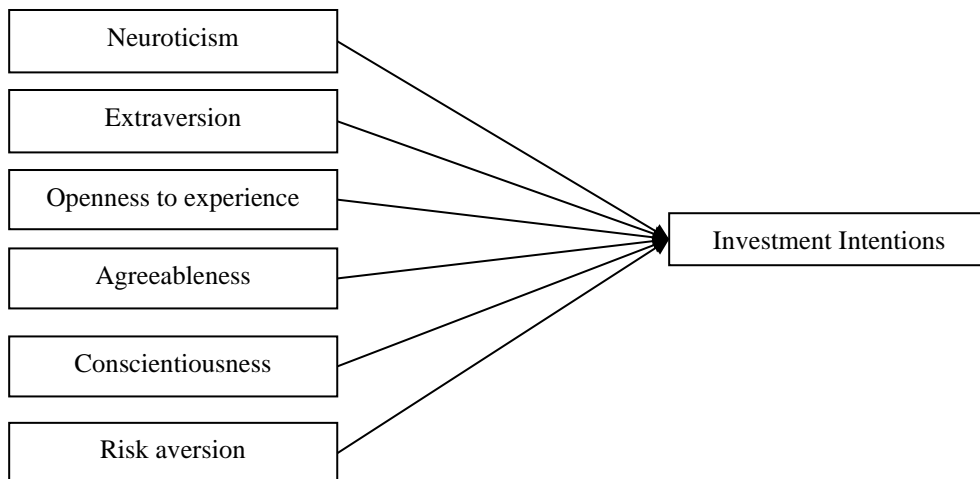
Small and Medium scale businesses (SMEs) are recognized as the key driver of the economies (Wijayarathna & Perera, 2018; Yogendrarajah et al., 2017). They play a decisive role in each and every economy, irrespective of the development status (Deyshappriya & Maduwanthi, 2020). And these businesses contribute to generating employment opportunities, reducing uneven income distribution, abolishing poverty and enhancing social well-being (Niranjala & Jianguo, 2017). Within the Sri Lankan context, SMEs have been facing numerous challenges in the recent past. Amidst such environmental turbulence, the growth of SMEs is highly constrained. Nevertheless, investments facilitate business entities in terms of developing and expanding business operations to achieve growth goals. However, the engagement in investments is a choice of the owners of the SMEs, and their investment intention leads to such a choice.

Investment intention means someone's intention to carry out an activity in the form of investing money or capital in a company or project for profit (Natsir et al., 2021). Personality is defined as "the way an individual interacts, reacts and behaves with others and is often exhibited through measurable traits" (Crysel et al., 2013). Personality traits consist of cognitive, motivational, and emotional characteristics that predispose individuals to make several decisions (Dolan et al., 2012). And, investors' personalities are associated with their investment choices and outcomes (Durand et al., 2008).

The personality types of people highly influence the investment intention of the individuals. Therefore, the horizon of investment intention can be predicted based on the dimensions of the personality of individuals. When we looked at the past, researchers have analyzed investor behavior and tried to better understand why people engage in investments differently. There is a plethora of previous studies that attempted to explain investor behavior. Personal characteristics influence investors' perception of risk, and their willingness to assume risk can be seen as the common outcome of the literature. But there is an unanswered question, that is, to which extent the individuals' personal characteristics influence their investment intentions. The limited research done within this area also generated inconclusive results. Thus, the present study was carried out with the objective of examining the impact of personality types of SME owners on investment intentions within the Sri Lankan context.

## Methodology

This section explains the methodology of the present study. It was designed as a quantitative study following the deductive approach within the positivist philosophical stance. The study employed a cross-sectional survey in order to collect the primary data required for the analysis. The respondents were the owners of the SMEs within the Minuwangoda divisional secretariat. The population of the study was identified using the records maintained by the divisional secretariat of Minuwangoda. Out of registered SMEs, randomly picked 234 businesses. Random selection ensures an identical probability for each element within the population for being picked up and included within the sample (Kothari, 2004). The sample size was determined following Krejcie & Morgan (1970) with a 95 per cent confidence level (Sekaran & Bougie, 2016). Neuroticism (NE), Extraversion (EX), Openness to Experience (OE), Agreeableness (AG), Conscientiousness (CO), and Risk Aversion (RA) served as the independent variables and Investment Intention (II) served as the dependent variable of the study. The potential relationship between the independent and dependent variables is illustrated in Figure 1.



**Figure 01. Conceptual Framework**

As per the conceptual framework of the study following hypotheses were identified and tested.

H<sub>1</sub>: There is an impact of neuroticism on investment intentions.

H<sub>2</sub>: There is an impact of extraversion on investment intentions

H<sub>3</sub>: There is an impact of openness to experience on investment intentions

H<sub>4</sub>: There is an impact of agreeableness on investment intentions

H<sub>5</sub>: There is an impact of conscientiousness on investment intentions

H<sub>6</sub>: There is an impact of risk aversion on investment intentions

## Findings

The self-administrated survey instrument measured the responses using a five-point Likert scale (1- strongly disagree: 5 – strongly agree). The instrument was pre-tested to ensure reliability (N = 35). The pilot test carried out generated Cronbach's alpha values free from reliability issues. Hence, a mass survey was conducted. The researchers calculated the reliability of all the variables using Cronbach's Alpha. If Cronbach's alpha value is greater than 0.7 the questionnaire is acceptable (Glen, 2021). According to the results of reliability analysis (Table 01) Cronbach's Alpha for neuroticism, extraversion, openness to experience, agreeableness, conscientiousness, and risk aversion were 0.837, 0.789, 0.844, 0.857, 0.712 and 0.810 respectively. Since all the alpha values obtained were well above the threshold (0.7), the reliability of the survey instrument was ensured.

**Table 01. Reliability Analysis**

Variables	Cronbach's alpha	Number of items
Neuroticism	0.837	5
Extraversion	0.789	4
Openness to experience	0.844	5
Agreeableness	0.857	4
Conscientiousness	0.712	5
Risk aversion	0.810	4
Investment Intention	0.823	8
Overall reliability	0.964	35

Thereafter, the demographic analysis was carried out. As revealed by the demographic analysis majority of respondents (56%) were females and 79% of the respondents were within 41-50 years of age. Most of the respondents were qualified with GCE Advanced Level (51%). Moreover, nearly half of the respondents had 5-10 years of finance experience.

Following the analysis of demographics, correlation analysis was performed for uncovering the association between the independent variables and the dependent variable. Correlation analysis showed a strong positive association between investors' personality types and investment intention ( $r = 0.920$ ). This relationship is statistically significant too. All the independent variables are associated with investment intention. In particular, neuroticism, extraversion, openness to experience, conscientiousness and risk aversion demonstrated strong positive and significant associations (0.833, 0.796, 0.828, 0.789 and 0.828, respectively) with the dependent variable. But agreeableness (0.576) indicated a positive relationship with investment intention.

A regression analysis was performed (Table 02) as an advanced analysis to assess the magnitude of the impact of the independent variables on the investment intention. The regression model developed was capable of predicting 85.2% ( $p = 0.000$ ) variation of the dependent variable. The independent variables showed up to be significant predictors of investment intention except for neuroticism.

**Table 02: Results of the regression analysis**

Variable	Investment intention	
	Coefficient	Sig.
Neuroticism	0.128	0.087
Extraversion	0.234	0.000
Openness to experience	0.167	0.021
Agreeableness	0.260	0.000
Conscientiousness	0.252	0.000
Risk aversion	0.270	0.000
R <sup>2</sup>	0.852	
Adjusted R <sup>2</sup>	0.848	
F value	217.459	0.000

Furthermore, the researchers used regression analysis for the purpose of testing the hypothesis. According to the hypothesis testing, the most powerful predictor of investment intention was risk aversion ( $\beta = 0.270$ ), then agreeableness ( $\beta = 0.260$ ), conscientiousness ( $\beta = 0.252$ ), and extraversion ( $\beta = 0.234$ ), respectively, while openness to experience was the least powerful predictors of investment intention. Moreover, the researchers identified that neuroticism was not affected investment intention significantly. Accordingly, the hypothesis H<sub>2</sub>, H<sub>3</sub>, H<sub>4</sub>, H<sub>5</sub> and H<sub>6</sub> were accepted and H<sub>1</sub> was rejected. These results comply with the prior scholarly findings (Pan & Statman, 2013; Mayfield et al., 2008).

The research model can be expressed as follows.

$$II = -1.723 + 0.234EX + 0.167OE + 0.260AG + 0.252CO + 0.270RA$$

II - Investment Intention, EX – Extraversion, OE – Openness to experience, AG – Agreeableness, CO – Conscientiousness, RA – Risk aversion

## Conclusion

In the light of blooming investor's personality types and shrinking investment intention, the study inquired the impact of investor's personality types on investment intention. Survey results unveiled a positive and significant impact of investor's personality types on investment intention. Risk aversion has the best predictive ability.

The study suggested a strong positive relationship between investor's personality types and investment intention. Practical implications call for implementing sound awareness programmes for SMEs who are in their early stage of business. Future researchers are suggested to follow the qualitative methodology to identify any specific factors that affect the investment intentions of SMEs within the Sri Lankan context.



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## **The impact of owners' financial literacy on the financial performance of the small and medium-scale enterprises in Sri Lanka**

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### **Introduction**

The new ideology of neo-liberalism and globalization has created the demand for the role of small and medium-scale enterprises (SMEs) as promoters of a healthy business climate, economic efficiency, and power for economic development (Kesk et al., 2017). SMEs have been recognized as the major economic driver in the Sri Lankan economy, as it accounts for more than 75 per cent of businesses while providing more than 45 per cent of the employment and more than 52 per cent contribution to the GDP in the Sri Lankan economy (Menike, 2019)

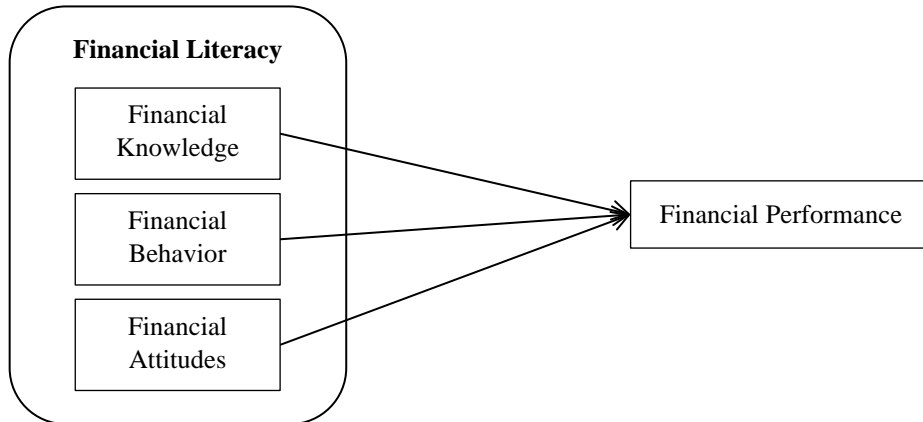
Financial literacy may include the activities such as household budgeting, learning how to manage and pay off debts, and evaluating the trade-offs between different credit and investment products which can be identified as important for an SME business to increase the profitability of the business (Lusardi & Mitchell, 2011). The financial performance of this study is included two dimensions business growth and business volume. The research on the financial literacy of small and medium manufacturing enterprises seems to be less, and most of them are regarding how to improve financial literacy.

By using this variation, in this study researcher attempts to identify the impact of financial literacy on the financial performance of only small and medium-scale manufacturing enterprises. In the Sri Lankan context, there is no adequate literature that focuses directly on the financial literacy and the financial performance of SMEs which are operating in the manufacturing sector in the Kandy Municipal Council. Accordingly, there is a literature gap in the Sri Lankan context of the financial literacy of owners and the financial performance of SMEs operating in the manufacturing sector in the Kandy Municipal Council. Hence, this study will fulfil this literature gap.

Mainly this study is based on The Impact of the Financial Literacy of Owners on the Performance of Small and Medium Scale Enterprises in Sri Lanka (Anuradha, 2021).

### **Methodology**

This study focuses on a quantitative research approach. Following the descriptive nature of the research, the population, sample, and conditions were designed to address the questionnaire. In this study, the following conceptual framework is used to show the link between the financial literacy of SMEs' owners and the financial performance of manufacturing sector SMEs in the Kandy Municipal Council.



**Figure 1. Conceptual framework**

*Source: Author constructed*

All the hypothesis tests were two-tailed tests in which the alternative hypothesis showed a positive direction in its structure. The hypothesis was tested by choosing a probability level of significance ( $p$ -value) for measuring the error judgment. A significance level of 5 per cent ( $p = 0.05$ ) was chosen as the maximum probability of rejecting a true null hypothesis (5% significance level).

Data collection is done through a questionnaire and that questionnaire is developed by identifying the variable based on the literature review, the conceptual framework, and the objectives of the study. The sample size for the study is 100 SMEs from the total population of the Small and Medium Scale Manufacturing Enterprises in the Kandy Municipal Council. Therefore, a questionnaire was distributed among the respondents who were living in the Kandy Municipal Council conveniently without any further filtering.

The variables in the research model, financial literacy and firm performance, were measured through a questionnaire with Five Point Likert Scales, and the personnel information was nominal scale. Data are presented with appropriate tables and figures with the help of the Statistical Package for Social Sciences (SPSS), where required. Descriptive analysis as well as inferential analysis, researcher analysis validity, reliability, preliminary statistical analysis, and multiple regression analysis to test the hypotheses.

## Findings

The multiple regression analysis is used to determine the functional relationship between the dependent variables and independent variables for predictions and making inferences.

To get the overall predictability of the model, the R square value is the most appropriate measure. Further, it generated a more honest value for the entire population. The results of the model summary are shown below.

**Table 1. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.813 <sup>a</sup>	.662	.651	.52865

a. Predictors: (Constant), Mean\_FA, Mean\_FK, Mean\_FB

b. Dependent Variable: Mean\_FP

Source: survey data

The R Square value shows 0.662. That means financial knowledge, financial behaviour, and financial attitudes collectively explain 66.2% of financial performance. The rest of 33.8% of the financial performance explains by other different factors which are not considered in this study.

**Table 2. Coefficients Statistics**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-1.519	.415		-3.663	.000
	Mean_FK	.430	.186	.279	2.305	.023
	Mean_FB	.450	.190	.291	2.371	.020
	Mean_FA	.448	.177	.293	2.537	.013

a. Dependent Variable: Mean\_FP

Source: survey data

According To the multiple Regression model:

$$FP = - 1.519 + 0.430FK + 0.450FB + 0.448FA$$

To accept the hypotheses, significant (P) values should be less than 0.05, and also same results can be generated by using T values, which should be greater than 2. The results of the hypotheses test are as follows.

H1: There is a significant impact of Financial Knowledge on the Financial Performance of SMEs

According to table 20, the financial knowledge P value is reported as 0.023 and it is not exceeded 0.05. Therefore, the researcher accepts the H1 and concludes that there is a significant positive relationship (b value is 0.430) between financial knowledge and financial performance.

H2: There is a significant impact of Financial Behavior on the Financial Performance of SMEs

Table 20 indicates that the financial behaviour P value is stated as 0.020 and is not greater than 0.05. As a result, the researcher accepts the H2 and draws the conclusion that there is a positive association between financial behaviour and performance (b value is 0.450).

H3: There is a significant impact of Financial Attitudes on the Financial Performance of SMEs

The financial attitudes P value is shown as 0.013 in table 20 and is not more than 0.05. The researcher thus accepts the H3 and comes to the conclusion that there is a strong positive link between financial attitudes and financial performance (b value is 0.448).

## Conclusion

The overall objective is to examine the impact of financial literacy on financial performance. Correlation analysis indicated that financial literacy has a high positive correlation with financial performance. Multiple regressions are indicated that there is a significant impact between financial literacy and financial performance, and there is a strong positive relationship. Further, concerning the multiple regressions, there is a significant impact between financial literacy and financial performance.

Based on the empirical findings, it can be recommended that all Small and Medium Scale Manufacturing Enterprises in the Kandy district need proper financial literacy to improve financial performance. Therefore, it is recommended to implement financial education programs to enhance the financial literacy levels among SME owners.

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## *Financial Economics*

## Determinants of adaption of mobile money usage in Sri Lanka

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### Introduction

Adaption to innovations is a key factor for the users to reap the benefits of technological advancements. Rogers described adaption as the decision to make full use of innovations (Rogers, 1995). The increasing penetration of technological advancements in the society we live in today has made many changes and requires users to adapt. Yet, advancements such as the introduction of mobile money have accelerated the growth in the finance sector through its nature of facilitating financial transactions in a quick, safe, and fast way. Spreading rapidly, mobile money has transformed the demography of financial inclusion and leapfrogged traditional banking services (Aron, 2018).

Mobile Money initially dominated domestic money transfers, but now it has expanded into a broader payment platform, including the payment of utility bills, school fees, rent, taxes, and retail payments as well. The usage of Mobile Money has been increasingly used to overcome financial exclusion among the poor and has helped smoothen their economic activities. Even though the mobile money service offered by mobile networks provides advantages to its users, attracting the target group of customers to the mobile money service has been a challenge so far. Motivated by this ongoing challenge, we designed this study to identify the determinants of adaption for mobile money among Sri Lankans.

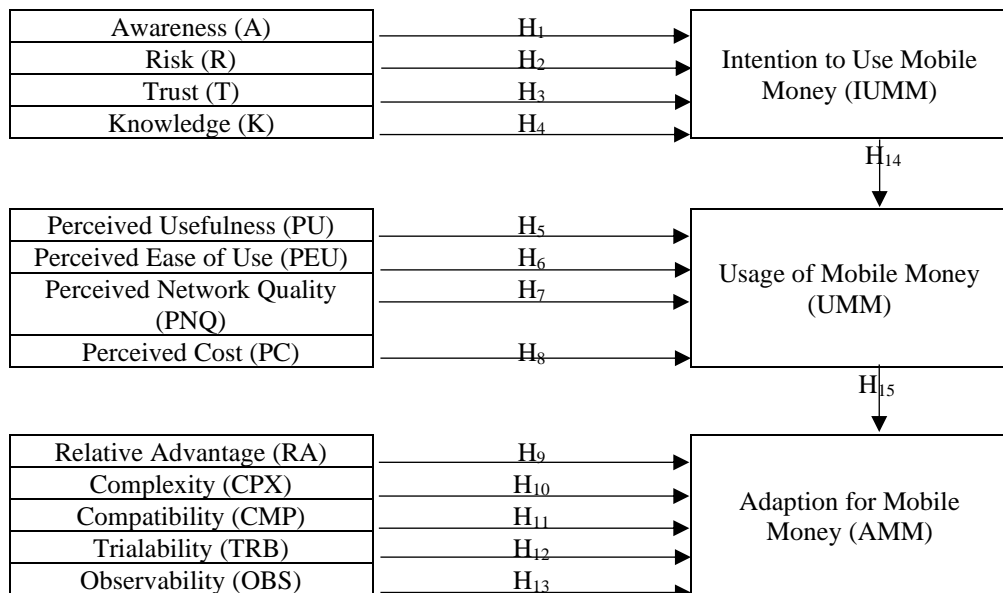
As per the Diffusion of Innovation Theory, Rogers (1995) attributed relative advantage, complexity, compatibility, trialability, and observability as the main influences of adaption behavior. Thus, the Technological Acceptance Model has described two factors that affect the likelihood of an individual using new technology or “intention to use a system”; namely perceived ease of use and perceived usefulness (Charness & Boot, 2016; Venkatesh & Davis, 2000). We define “perceived usefulness” as the user’s likelihood that the use of a certain system will improve his/her actions and “perceived ease of use” as the degree to which the potential user expects the target system to be effortless (Davis, Bagozzi, & Warshaw, 1989). Thereby, we articulate that the positive stimuli from the “intention to use mobile money” motivate an individual to turn his or her intention into action (usage of mobile money), ultimately leading to the adaption.

The studies confirmed that “awareness” (Alkhunaizan & Love, 2012) or familiarity with the existence of a product or service, “knowledge” (Alkhunaizan & Love, 2012) or know-how of products or service usage and includes technology, complexity, and level of performance, “risk” (Sweeney, Soutar, & Johnson, 1999) or the absence of

security during a transaction due to unexpected errors or dishonesty among the parties involved, and “trust” (Kim, Mirusmonov, & Lee, 2010) or the willingness to use new products or services with a sense of comfort, safety, and risk acceptance are the key proxies of “intention to use mobile money”. We used perceived usefulness, perceived ease of use, perceived network quality, and perceived cost as the measures of usage of mobile money (Davis, Bagozzi, & Warshaw, 1989; Njele & Phiri, 2021). Finally, as per the Diffusion of Innovation Theory, we measured the level of adoption for mobile money through relative advantage, complexity, compatibility, trialability, and observability.

## Methodology

The study was conducted based on the deductive research approach using quantitative techniques. Accordingly, we derived a Likert scale questionnaire with 5 scales to measure the variables. The study focused on the conceptual model (figure 1) derived based on the literature review. The users of mobile money were the population of the study which is unknown, and thereby, we applied a non-probabilistic sampling technique for collected data. Accordingly, we used a convenient sampling technique and received 402 responses from the M-Cash and Easy Cash users. Although Morgan’s table suggests a 385-sample size with a 0.05 level of significance (Krejcie & Morgan, 1970), we considered all the responses for the analysis.



**Figure 6. Conceptual Framework<sup>1</sup>**

The analysis initially derived the regression models to forecast the intention to use mobile money, usage of mobile money, and adaption for mobile money. Later, we tested the impact of intention to use mobile money on the usage of mobile money, and

<sup>1</sup> The hypotheses H<sub>1</sub> to H<sub>15</sub> have been discussed in the findings section in detail.



finally the impact of usage of mobile money on adaption for mobile money. The Conceptual Framework is built using evidence from previous empirical studies.

## Findings

The study measured the reliability of the Likert items using Cronbach's Alpha statistic, Convergent Validity, Discriminant Validity, Composite Reliability, Wilks' Lambda, and Box's M. Further, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was used to measure the adequacy of the sample size to test the variables.

**Table 9. Cronbach's Alpha Statistic**

Model 01			Model 02			Model 03		
Variabl e	Statistic *	N of Item s	Variabl e	Statistic *	N of Item s	Variabl e	Statistic *	N of Item s
A	0.806	3	PU	0.831	3	RA	0.793	3
R	0.753	3	PEU	0.832	3	CPX	0.882	3
T	0.828	3	PNQ	0.599	3	CMP	0.790	2
K	0.838	3	PC	0.832	3	TRB	0.649	3
IUMM	0.883	3	UMM	0.788	3	OBS	0.708	2
						AMM	0.877	3

*\*Statistic: Cronbach's Alpha Value*

The reliability of all the Likert items in defining each variable can be summarized as follows.

The Cronbach's Alpha statistics of all the variables are closer to or above 0.6. Thereby, we confirm the internal consistency of the Likert items in measuring the variables. The bivariate correlation analysis confirmed that all the values within the same construct range between 0.5 and 0.7 and are significant at 0.01 level, suggesting that there is a strong convergent validity. The majority of the correlations of the different constructs were below 0.3; confirming the existence of discriminant validity among Likert items in the different constructs. The P-values of Wilk's lambda test also supported the discriminant validity results of the correlation analysis. The composite reliability of all variables is  $\geq 0.6$ , thus can be considered that the internal reliability of each latent variable is high. Since the significance value of the Box's M is less than 0.001, it is concluded that there is an unequal group variance. Finally, the KMO statistic is more than 0.7 for all the variables; therefore, the sample size is sufficient to conduct the analysis.

Accordingly using the desired Likert items, we measured the variables and derived the multiple regression to understand the relationship between the variables. As per the regression results of model 01, we confirm that the intention to use mobile money has been significantly and positively influenced by awareness (A), risk (R), trust (T), and knowledge (K). Accordingly, we accept hypotheses H<sub>1</sub>, H<sub>2</sub>, H<sub>3</sub>, and H<sub>4</sub>. Model 02 directs us to accept hypotheses H<sub>5</sub>, H<sub>6</sub>, H<sub>7</sub>, and H<sub>8</sub>. Thus, we accept that perceived usefulness (PU), perceived ease of use (PEU), perceived network quality (PNQ), and perceived cost (PC) have a significant positive impact on determining the usage of

mobile money. Finally, by accepting H<sub>10</sub> and H<sub>11</sub> we considered complexity (CPX) and compatibility (CMP) as the determinants of adaption to mobile money. Accordingly, we measured the intention to use mobile money, usage of mobile money, and adaption to mobile money only by using significant variables. The summary of the derived hypotheses of this study and the decision made is as follows.

**Table 10: Summary of the Regression Results**

	Model 01				Model 02				Model 03					
	B	t	P*	VIF	B	t	P*	VIF	B	t	P*	VIF		
C	-.564	-2.195	.029		C	.174	1.125	.261	C	1.303	4.597	.000		
A	.147	2.712	<b>.007</b>	2.134	PU	.170	3.251	<b>.001</b>	3.087	RA	.074	.848	.397	2.141
R	.135	3.077	<b>.002</b>	1.040	PEU	.350	6.542	<b>.000</b>	3.362	CPX	.647	9.636	<b>.000</b>	1.557
T	.395	6.441	<b>.000</b>	1.562	PNQ	.123	3.134	<b>.002</b>	1.217	CMP	-.256	-3.714	<b>.000</b>	1.557
K	.432	6.978	<b>.000</b>	2.270	PC	.264	6.270	<b>.000</b>	2.088	TRB	.088	1.170	.243	1.330
										OBS	.016	.180	.857	2.528

\*P value = 0.05 level of significance

To evaluate what we articulated earlier; the positive stimuli from the “intention to use mobile money” motivate an individual to turn his or her intention into action (usage of mobile money), ultimately leading to the adaption”, we initially tested the relationship between intention to use mobile money and usage of mobile money.

**Table 11: Summary of Hypotheses Testing**

Hypotheses	Conclusion
H <sub>1</sub> : There is a significant positive impact of Awareness on the Intention to Use Mobile Money	Accepted
H <sub>2</sub> : There is a significant negative impact of Risk on the Intention to Use Mobile Money	Accepted
H <sub>3</sub> : There is a significant positive impact of Trust on the Intention to Use Mobile Money	Accepted
H <sub>4</sub> : There is a significant positive impact of Knowledge on the Intention to Use Mobile Money	Accepted
H <sub>5</sub> : Perceived Usefulness increases the Usage of Mobile Money	Accepted
H <sub>6</sub> : Perceived Ease of Use increases the Usage of Mobile Money	Accepted
H <sub>7</sub> : Perceived Network Quality increases the Usage of Mobile Money	Accepted
H <sub>8</sub> : Perceived Costs decrease the Usage of Mobile Money	Accepted
H <sub>9</sub> : Relative Advantage and the Adaption of Mobile Money are positively connected	Rejected
H <sub>10</sub> : Complexity and the Adaption to Mobile Money are positively connected	Accepted
H <sub>11</sub> : Compatibility and the Adaption to Mobile Money are negatively connected	Accepted
H <sub>12</sub> : Trialability and the Adaption to Mobile Money are positively connected	Rejected
H <sub>13</sub> : Observability and the Adaption to Mobile Money are positively connected	Rejected
H <sub>14</sub> : The Intention to Use Mobile Money determines the Usage of Mobile Money	Accepted
H <sub>15</sub> : The Usage of Mobile Money determines the Adaption of Mobile Money	Accepted

The findings confirmed a significant positive influence of intention to use mobile money on the mobile money usage decisions of customers (accept  $H_{14}$ ). Finally, we assessed the impact of the usage of mobile money on the adaption of mobile money, which is also found to be positively significant (accept  $H_{15}$ ).

## Conclusion

We aimed to identify the determinants of the adaption of mobile money among Sri Lankans through this study. Further to the findings of this study, we can conclude that complexity (CPX) and compatibility (CMP) directly impact determining the adaption of mobile money among Sri Lankans. Even though Rogers (1995), introduced five factors for adaption behavior, the findings of this study confirmed that relative advantage, trialability, and observability are not influential factors when considering the mobile money market. Further, we found that awareness, risk, trust, and knowledge are the root causes that stimulate customers to use mobile money which ultimately leads to adaption through the motivation that they gather by using mobile money. After all, we confirm that as the motivators for usage, the customer perceptions such as perceived usefulness (PU), perceived ease of use (PEU), perceived network quality (PNQ), and perceived cost (PC) also motivate the users to adapt to mobile money.

Initially, we highlighted the challenge faced by mobile money service providers when attracting the target group of customers. While referring to the findings of the current study, the respective service providers can improve customer awareness, develop customer trust, ensure risk controls, and improve customer education on M-Cash or Easy Cash to popularize their products among customers. Successful attempts in these areas will ultimately improve the perceived behavior of the customer. If the mobile money service providers expect to develop loyal customers, then they must focus on delivering their service at a low cost, with more access points to improve the usability among customers while improving the network quality.

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## **Impact of corporate performances on share prices: Evidence from listed companies in Sri Lanka**

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### **Introduction**

Corporate performances are how well organizations implement their necessary parameters, such as profitability, liquidity, leverage, efficiency, investment returns and firm size. So, decision-makers of the companies need to identify the impact from corporate performances on share prices of the companies with the purpose of making accurate decisions.

The key purpose of this study was to identify the impact of corporate performances on share prices in the listed companies. The major elements of corporate performance are profitability, leverage, liquidity, efficiency, investment returns and firm size. So, there are several studies have done regarding the impact of corporate performances on share prices according to the foreign country context. So, this study needs to identify the impact of corporate performances on share prices according to the Sri Lankan context. So, it is important to realize the impact of corporate performances on share prices in listed companies in CSE of Sri Lanka to the stakeholders. Further, this study intends to identify the impact of corporate performances on share prices in listed companies on Colombo Stock Exchange (CSE) since 2017-2021 financial years.

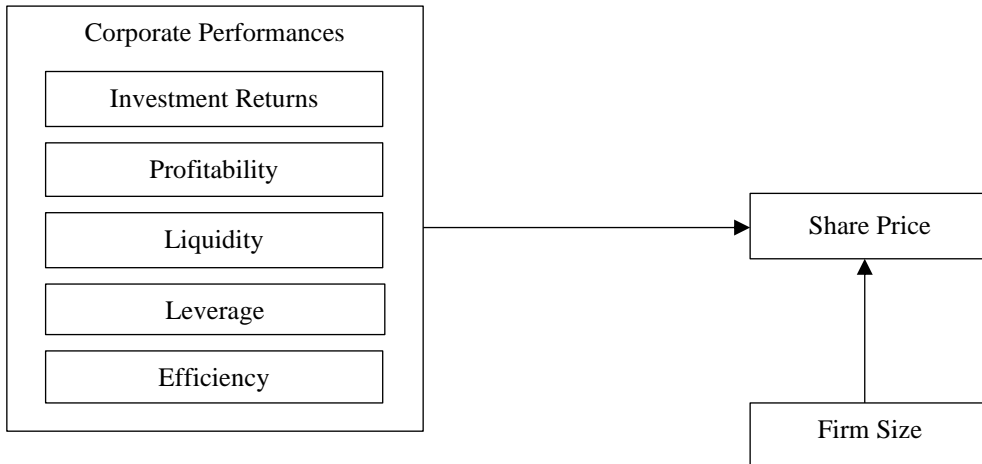
### **Methodology**

There are 282 listed companies in CSE Sri Lanka, and it selected 51 listed companies as a sample out of 282 listed companies by using the stratified sampling technique. Further, the study concerns on secondary data collected through the prior five years publicly available annual reports since 2017-2021. Further, multiple regression analysis was used to identify the impact of corporate performances on share prices. So, panel data is used to identify the impact of corporate performances on share prices. Generally, the study employed the quantitative approach to identify the impact. Further, this study used investment returns, liquidity, leverage, profitability, and efficiency as independent variables and firm size as a control variable.

### ***Hypothesis development***

Seetharaman & Rudolph, (2001) aims to investigate the correlation between public bank berhard's EPS and its stock prices for a relatively long period of 19 years. It results that there is a significant impact on earnings on stock prices. So, based on that it developed the hypothesis as follows.

H<sub>1</sub>: There is a significant relationship between investment returns and share prices in listed companies in CSE Sri Lanka.



**Figure 01. Conceptual Framework**

Further, Siagian et al., (2021) aims to identify the impact of current ratio (CR), debt to asset ratio (DAR), return on equity (ROE) on stock prices of pharmaceutical companies listed in Indonesia since 2016-2019. It found that CR (liquidity) has positive and significant impact on share prices. So, based on that it developed the hypothesis as follows.

H<sub>2</sub>: There is a significant relationship between liquidity and share prices in listed companies in CSE Sri Lanka.

Further, (Bahreini et al., 2013) it aims to identify the impact of financial leverage on stock prices in Tehran stock market. It resulted that there is a negative significant impact on leverage and share prices. So, based on that it developed the hypothesis as follows.

H<sub>3</sub>: There is a significant relationship between leverage and share prices in listed companies in CSE Sri Lanka.

As well as, (Alaagam & Asuil, 2019) it aims to identify the impact of profitability on share prices of listed banks in Saudi Arabia since 2011-2018. It identified that there is a significant positive impact on profitability and share prices. So, based on that it developed the hypothesis as follows.

H<sub>4</sub>: There is a significant relationship between profitability and share prices in listed companies in CSE Sri Lanka.

Further, (Lubis et al., 2018) attempt to identify whether TATO affect to stock prices. So, the results found that TATO has a significant effect on stock prices. So, based on that it developed the hypothesis as follows.

H<sub>5</sub>: There is a significant relationship between efficiency and share prices in listed companies in CSE Sri Lanka.

Further, (Christina & Robiyanto, 2018) aimed to find the effect of firm size on share prices of 63 manufacturing companies. However, it found that firm size has significant positive impact on share prices. So, based on that it developed the hypothesis as follows.

H<sub>6</sub>: There is a significant relationship between firm size and share prices in listed companies in CSE Sri Lanka.

#### *Research model*

$$MP = \beta_0 CR + \beta_1 DER + \beta_2 ROE + \beta_3 EPS + \beta_4 TATO + \beta_5 FSZ$$

MP – Market price of share, EPS – Earnings per share, CR – Current ratio, DER – Debt to equity ratio, ROE – Return on equity, TATO – Total assets turnover ratio, FSZ – Firm size

## **Findings**

### *Descriptive statistics*

Average CR and EPS of the sampled companies are 1.95 and 11.51, respectively. The average value of ROE and DER of sampled companies are 13% and 102%, respectively. The average TATO and firm size of the sampled companies are 0.56 times and 22.40, respectively.

### *Correlation*

CR (liquidity), TATO (efficiency) and firm size have a weak positive correlation with share price. But, investment returns (EPS) have a strong positive correlation with share prices. Further, DER (leverage), ROE (profitability) have a negative correlation with share prices.

### *Regression analysis*

According to the results in the fixed effect regression model, it analyses the impact of corporate performances on share prices. The results reported on R squared of 0.851532 which means ROE, EPS, TATO, CR, DER (independent variables), FSZ (control variable) explains 85% of the variation of the share prices. Further, the overall model is significant as the P value of F statistic value is 1%, implying that the model fits the data set well.

So, the results found that CR is insignificant at 5% significant level as P value is 0.60 and more than 5%. According to the table, when CR increase by 1 unit cause to decrease in the share price by Rs.3.72 (negative relationship). Further, DER is insignificantly at 5% significant level as p value is 0.75 and more than 5%. When DER increase by 1 unit cause to increase the share price by Rs. 6.72 (positive relationship). Further, ROE is insignificant at 5% significant level as p value is 0.50 and more than 5%. As per the results, when ROE increase by 1 unit cause to increase the share price

by Rs.47.86 (positive relationship). Further, EPS is significant at 5% significant level as p-value is 0.02 and less than 5%. When EPS increase by 1 unit cause to increase the share price Rs. 1.75 (positive relationship). Actually, TATO is insignificant at 5% significant level as p-value is 0.88 and more than 5%. As per the results, when TATO increase by 1 unit cause to decrease the MP of shares by Rs.2.96 (negative relationship). Further, FSZ is significant at 5% significant level as p-value is 0.03 and less than 5%. As per the results, when FSZ increase by 1 unit cause to increase in the MP of shares by Rs.47.72(positive relationship).

**Table 12: Fixed Effect Model**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-937.891	509.334	-1.841	0.0671
CR	-3.720	7.096	-0.524	0.6007
DER	6.729	21.148	0.318	0.7507
ROE	47.867	70.887	0.675	0.5003
EPS	1.751	0.764	2.291	0.0230
TATO	-2.956	19.603	-0.150	0.8803
FSZ	47.428	22.539	2.104	0.0366
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.851532	Mean dependent var		149.0477

Source: (Eviews Output,2022)

## Conclusion

So, the objective of the study is to identify the impact of determinants on share prices in listed companies on CSE. According to the study, investment returns (EPS) and firm size (control variable) significantly impact share prices. However, profitability (ROE), leverage (DER), liquidity (CR), and efficiency (TATO) insignificantly impact share prices. Seetharaman & Rudolph (2011) also found that EPS has a significant positive impact on share prices. Then, the results of the study are the same as previous researchers' findings. (Siagian et al., 2021) also found that CR (liquidity) and DAR (leverage) have a positive and significant impact on share prices. Further, Alaagam & Asuil (2019) found that profitability has a significant positive impact on share prices. But, those prior researchers' findings contradict this study results. So, this study found that CR and TATO have negative & insignificant impact on share prices. Further, ROE & DER has an insignificant positive impact on share prices. There is some implication of the findings to the investors. Investors should invest in listed companies which are having good earnings per share.

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## **The impact of covid-19 on the financial performance of the banking sector in Sri Lanka**

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### **Introduction**

The implementation of Covid-19 measures had a negative influence on people's livelihoods, enterprises, communities, and homes, as well as the global and regional economies, and Sri Lanka was no exception. The purpose of this study was to identify the impact of Covid-19 on the financial performance of the Banking sector in Sri Lanka. According to the company's financial performance, there has been some financial success in terms of income, operational costs, debt levels, assets, and investment returns. Simply is a measurement of a company's overall financial health over a specified time. Additionally, financial ratio analysis is to assess the overall performance and financial health of a company. Examples of these ratios are the profitability ratio, leverage ratio, and credit risk ratio. COVID-19 wreaked havoc on every sector of the Sri Lankan economy, including travel and tourism, construction, banking, and finance. Banks play a vital role in the economy of any country, so it is no surprise that their operations are among the most strictly regulated and supervised of all enterprises. Banks' ability to accomplish the intended objectives and continue to play the role entrusted to them is dependent on the presence of an enabling environment, as well as the number of functioning banks and their performance from one financial year to the next. Banking is a sector that is rapidly expanding. Every bank strives to improve overall performance as well as profits to gain a stronger position in the financial system. Covid-19 pandemic creates financial risk within the banking sector of Sri Lanka.

When examining the research, the researcher primarily intends to accomplish three objectives. The first objective is to explain the impact of covid-19 on the profitability of the banking sector, the second one is to explain the impact of covid-19 on the leverage of the banking sector and finally explain the impact of covid-19 on the Credit risk of the banking sector in Sri Lanka. In the past, most scholars have been done to investigate the impact of covid-19 on the financial performance of the banking sector (Mahbub Karim, 2020), studied the Impact of pandemic coronavirus Covid-19 on Banking Sector Financial result in sultanate of Oman, the researcher mentioned According to the majority equivalent to 95% of the bank profits has been decreased due the pandemic of covid-19.

### **Methodology**

Data from the company's financial statements for the years 2019-2020 (prior to Covid-19) and 2020-21 (during the covid-19) were collected for the study. Sri Lankan listed

banks were the sample of this study. Credit risk, leverage, and profitability ratios were used as indicators of financial performance. Paired Sample T-test was used to analyze the data which is utilized to determine whether there is any significant change in performance of banking prior and during the covid-19 epidemic.

## Findings

According to analyze based on the evaluation of the data's informational content, it shows the covid-19 epidemic has not negatively effects on the banking industry and the value of the Nonperforming loans nonperforming increased but it not much negatively affects the bank financial performance. Further observations showed that the research study's conclusions were less consistent with the earlier findings. (Sharma and Mathur, 2021) and (Bohingamuwa *et al.*, 2020) stated that there is a negative impact of covid-19 on bank financial performance their studies show some banks struggle due to deposits, lower demand for loans, and increasing non-performing loans

**Table 1: Results of the Study**

Objective	Variables	Paired sample	Result
		T-test Sig.Value	
The impact on leverage ratio.	Debt to Asset Ratio (DAR)	0.094	Not changed significantly
	Debt to Equity Ratio (DER)	0.087	Not changed significantly
The impact on Profitability ratio.	Gross profit margin (GPM)	0.341	Not changed significantly
	Net profit margin (NPM)	0.380	Not changed significantly
	Return on Asset (ROA)	0.420	Not changed significantly
	Return on Equity (ROE)	0.425	Not changed significantly
The impact on credit risk.	Non-performing Loans (NPL)	0.306	Not changed significantly

## Conclusion

The aim of the study was to examine whether there are any differences in the banking industry's financial performance in Sri Lanka before and during the COVID-19 period. While profitability as assessed by GPM, NPM, ROA, and ROE, results revealed that there is no any significant difference before and during the covid-19 pandemic. Leverage and credit risk as measured by DAR, DER, and NPLM are also not significantly changed due to COVID – 19. Thus, the results suggest that the outbreak of COVID-19 has no major impact on the profitability, leverage and credit risk of Sri Lankan banks. This may be due to those banks in Sri Lanka working very hardly to digitalized and converts all the products and services in the digital platform to serve the clients in the greatest method. Same results have been detected by Dong (2021) in Chinese Banks. The findings of this study will assist bank authorities in detecting

loopholes and implementing preventive measures that will boost their profitability during a crisis period such as COVID-19. Investors and depositors who put money in banks can also make precise decisions about their portfolios.

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## **Impact of dividend policy on firm performance: empirical evidence from listed manufacturing companies in Sri Lanka**

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### **Introduction**

Manufacturing firms play a vital role in the economy. The manufacturing industry supports reducing the unemployment problem as well as to increase the national income of the economy. This study conducts to assess the impact of dividend policy on the firm performance of listed companies on the Colombo Stock Exchange (CSE). The findings of this study will support to the manufacturing firm management and investors to take their economic decisions according to the Sri Lankan context.

In today's competitive business world, dividend policy is quite important. Because it is regarded as the rules and criteria that are utilized to determine how much money should be paid to shareholders in the form of dividend payments. Dividend policy, on the other hand, has attracted a lot of attention over the last decade as a vital strategy for companies to use in distributing revenue to their shareholders.

Dividend policy is one of the most complicated components of a business as dividend payout is regarded as a primary indicator of a company's performance. Accordingly, understanding the pattern of dividend distributions is critical for businesses. In addition, the dividend policy has a substantial impact on the company's profitability, top management should pay close attention to dividend policy in order to maximize shareholder wealth. Furthermore, dividend distribution is important for investors since dividends are regarded as a measure of a company's financial health, and dividends also aid in maintaining the market price of a company's stock. Therefore, various academics have looked into the link between dividend policy and firm success and found that there is strongly positive and negative relationship between them. However, their findings were incongruent.

Despite the fact that various research has been undertaken to study the association between dividend pay-out and manufacturing industry firm performance in various settings, there were contradictory findings. Some scholars found a significant impact of dividend policy on firm performance (Farrukh et al. 2017; Garba, 2014) while some scholars failed to find out any type of relationship between the dividend yield and firm performance (Amidu, 2007; Rachim, 1996; Scholes, 1974). Those conclusions aren't applicable to the Sri Lankan situation since there are significant disparities in economic, political, and ethical backgrounds when comparing Sri Lanka to other countries. As a result, a clear picture or conclusion of the relationship between dividend payout and business success in Sri Lanka's manufacturing industry is

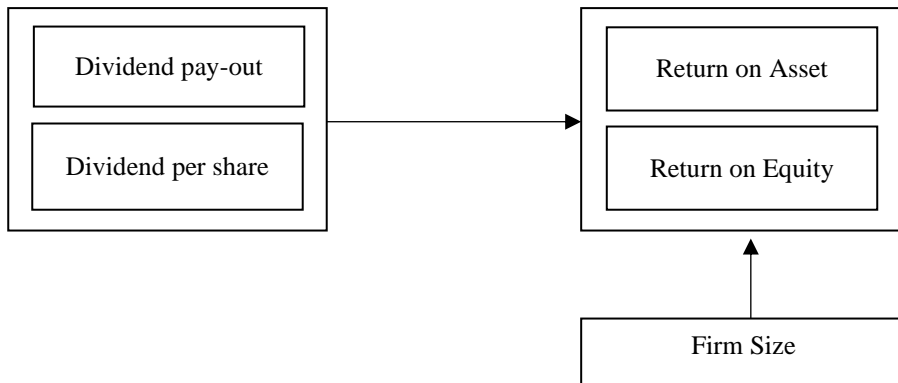
difficult to come by. As a result, this research is being carried out in order to close this gap.

## Methodology

The goal of this research is to see if there is a link between dividend payout and business performance among Sri Lanka's twenty manufacturing companies listed on the Colombo Stock Exchange (CSE) for the period of five years from 2017 to 2021. The research approach, population and sample of the study, conceptual framework, hypotheses, operationalization, data analysis method, variable measurement, and data analysis are considered under the methodology. The research followed the quantitative approach. This research is based on secondary data from financial evidence given by twenty listed manufacturing companies on the CSE in Sri Lanka from 2017 to 2021.

All thirty-one manufacturing companies are listed on the CSE are considered as the population of the study and 20 companies were selected as the sample of the study based on the simple random sampling technique. The study relied heavily on secondary and quantitative sources. Secondary data was gathered through the data repository of the CSE.

The theoretical framework aids in determining the link between dividend policy and corporate performance. It aids in the identification of the study's independent and dependent variables. The independent variables are dividend pay-out and dividend per share, the dependent variables are returned on assets (ROA) and return on equity (ROE), and the control variable is firm size. Figure 01 represents the conceptual framework of the study;



**Figure 1. Conceptual Framework**

*Source: Compiled by authors*

## Findings and Discussions

The findings from the descriptive statistics as presented in the table 01 represents a mean dividend payout of about .882947 for the firms under consideration.

**Table 1. Correlation Analysis**

T	ROA	ROE	DPO	DPS	TS
ROA	1.000				
	-				
ROE	0.818	1.000			
	0.000	-			
DPO	-0.069	-0.081	1.000		
	0.4928	0.421	-		
DPS	0.358	0.263	-0.033	1.000	
	0.002	0.0082	0.738	-	
TS	-0.109	-0.0232	-0.052	-0.135	1.000
	0.276	0.818	0.601	0.179	-

*Source: Compiled by authors*

The correlation value between DPO and ROE is -0.0812. It indicates that there is an insignificant and weak negative relationship between DPO and ROE. The correlation value between DPO and ROA is -0.0692 and it indicates an insignificant and negative relationship between the above DPO and ROA. The DPO has a statistically insignificant effect on TS according to the value of -0.0529 at the 1% significant level and it indicates an insignificant and negative relationship between the above variable. The correlation value between DPS and ROA is 0.358 moderate positive correlation and it indicates a significant & positive relationship between DPS & ROA. The correlation value between DPS and ROE is 0.263. moderate positive relationship and it indicates a significant relationship between DPS and ROE. The correlation value between DPO and TS is -0.0529. It indicates that there is an insignificant and weak negative relationship between DPO & TS. The correlation value between DPS and TS is -1.35. It indicates that there is a perfect negative relationship & there is an insignificant and a perfect negative relationship between DPS & TS.

The multiple regression analysis was carried out to analyze the influence of each independent variable (DPO, DPS, TS) on dependent variables (ROA, ROE). The relationship between the independent and dependent variables can be illustrated through these models. ROE values of ROE have an insignificant relationship with independent variable dividend pay-out. Furthermore, dividend per share has an insignificant relationship with ROE as t and p values are -0.44 and 0.65 respectively and the coefficient is -0.0009. Total asset (TS) has an insignificant relationship with ROE and TS shows p values are 0.28 and a t value of 1.06. the coefficient is 1.49.

ROA has an insignificant relationship with independent variable dividend pay-out. Furthermore, dividend per share has a positive and significant relationship with ROA as t and p values are 2.43 and 0.0169 respectively and the coefficient is 0.00449. Total asset (TS) has an insignificant relationship with ROA and TS shows p values are 0.20 and a t value of -1.26. the coefficient is -1.54.

## Conclusion

The manufacturing industry plays a key role in generating gross domestic product and it directly contributes to economic development and economic stability. Therefore, the manufacturing industry has been considered an important industry in any country. This study aims to examine the significant differences in dividend pay-out, dividend per share, and firm performance and to investigate the relationship between dividend payout, dividend per share, and firm performance of selected 20 listed manufacturing firms in Sri Lanka from 2017 to 2021. Descriptive analysis, correlation analysis, and regression analysis are used to achieve the objectives of the study furthermore this study also focused on only listed manufacturing firms on CSE and didn't consider non-listed manufacturing firms. To get a better understanding, future researchers should investigate non-listed manufacturing firms as well. All the listed manufacturing firms are not in the sample. It is better to use all listed manufacturing firms as the sample.

Conversely, the variables of this study were selected by using previous research. This study suggests that future researchers should consider other measurements, especially market-based measurements such as dividend yield, earning growth ratio, earning per share, price-earnings ratio, and return on sales etc. These findings also showed that the major factors were firm performance and firm size that affected to the dividend payout, and dividend per share of listed manufacturing firms. Other factors such as legal rules, capital structure, past dividend payments pattern, and tax positions of the shareholders were not considered. To get true and fairly decisions, future researchers should be paid attention to the above factors.

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## Financial management perspectives of Buddhist philosophy

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### Introduction

Financial management is the effective and efficient utilization of financial resources. It is concerned with adequate funds management in the business process. Primary financial decision-making has been considered with financial management. Management of finance is necessary for all forms and sizes of business (Fabozzi & Peterson, 2003). Business organizations seek to achieve their objectives and goals by obtaining funds from various sources and investing in different assets. In this context, the need for financial management is more critical today than ever before. Simply, financial management is managing finances through scientific and effective decision-making. Making financing decisions is a crucial function in financial management. Financially well-managed companies are operationally efficient. As mentioned above, making the financing decision is an essential function under financial management. To make the right financing decisions, one must understand the financial environment within which those decisions operate. Financial management involves the application of principles of general management to the finance function. Financial management is strategically planning how a business should earn and spend money. Mainly it includes risk management, wealth maximization, investment management and some theories about financial management.

Buddhism is a religion that was founded by Siddhartha Gautama in India more than 2500 years ago. The Buddhist teachings are based on real experiences had by Gautama Buddha (Muyzenberg, 2014) Researchers consider Buddhism as one of the major world religions, with around 470 million followers. Buddhist philosophy mainly focuses on the teachings of Gautama Buddha and its focus on directing people to Nirvana. Buddhism, the teaching of renunciation, always advocates for its followers to lead a life that benefits everyone. The primary purpose of the Buddha's teachings is to free sentient beings from suffering. Nevertheless, many Buddhist discourses (*Sutta*) provide evidence that, upon making special requests by followers for their secular life success.

This paper explores Buddhist philosophy to extract the Buddha's inspirational thoughts on financial management. Under this, it has been discussed about financial management theories can be integrated with Buddhist teachings. There is some evidence provided by Buddhist discourses that, upon making a special request by the disciples, Buddha has preached some advice on matters of the secular life of their followers (Karunaratne, Business, Financial, and Risk Management perspectives of Buddhist Philosophy, 2019). This study first discussed the Buddhist approach to

decision-making and risk management strategies; secondly, it discussed Buddhist attitudes towards investments. Thirdly, concerned about the best fit with well-known financial management theories and Buddhist philosophies. Fourthly, it addressed wealth maximization in modern management and wealth maximization from Buddha's perspective.

This research aims mainly to find the Buddhist teachings that can be applied to financial management decisions. It explores financial management theories with the view of Buddhist philosophy. As far as in this research leads to finding out how to make effective decisions according to Buddhist Philosophy. This research expects to explore the Buddhist viewpoints relating to financial management strategies.

This study will help to get an idea of how to take effective decisions, how to manage finances, how to treat stakeholders, what kind of investments we can make and how to apply the financial theories based on the teachings of the Buddhist philosophy. The study answers the above questions according to the teachings of Gautama Buddha. This study helps to get an idea of Buddhist philosophy best fits with some of the well-known theories in financial management.

## **Methodology**

Research methodology refers to the practical "how" of any given piece of research. It means how a researcher systematically designs a study to ensure valid and reliable results that address the research aims and objectives. Any study's methodology should specify how the research will be conducted and controlled. In this study, have been used qualitative research methods. This research has been developed with Buddhist philosophy and financial management. This study critically aims to explore Buddhist philosophy to identify the inspirational thoughts of Gautama Buddha that promote financial management practices and integrate Buddhist teachings with the theories of financial management. For this research, text analysis was employed. Through the review of the literature, it was proved that the Buddhist philosophy provides some exciting advice that today's managers could adopt. This study has investigated Buddhist teachings that can be applied to financial management concepts. It has been highlighted Buddha's teachings which can be integrated with the business world.

This study is mainly based on Buddhist teachings. Therefore, to explore Buddhist philosophy, one should have to refer to the *Tripitaka*, which includes the teachings and thoughts of Gautama Buddha. Nevertheless, to conduct this study, the "*Sutta Pitaka*" has been studied and, under the *Sutta Pitaka*, "*Sanyukta Nikaya*", "*Anguttara Nikaya*", "*Kuddaka Nikaya*", and "*Digha Nikaya*" have been studied in depth. This comprises research design details and methods used to do the study. The central part of this study is exploring Buddhist philosophy. Since we had to use text analysis for this study, therefore, under this review couldn't work with statistical procedures. This is exploratory research based on qualitative data. This study has gathered information from *Sutta-Pitaka*, books, journal articles, textbooks, and websites. From those sources, information will have been gathered, which provides evidence that Buddha has advised on matters of worldly gain towards prospering a person's secular life.

## Findings

In conclusion, under this study, there is clear evidence that Buddhist teachings emphasize risk management, financial decision-making, investments, financial management theories and wealth maximization. The discourses mentioned above and the teachings of Buddhism have clearly explained how financial management integrates with Gautama Buddha's teachings. Buddhist philosophy views organizational goals from a much broader perspective than conventional management approaches. Buddhism focuses on maximizing the welfare of all stakeholders, whereas standard management theories strongly emphasize maximizing profit and shareholder wealth. However, the stakeholders recognized in Buddhist philosophy are much broader than those found in management theory, which encompasses both active and passive stakeholders and all living things, both visible and invisible. Gautama Buddha directs his followers to select some new investments and how to manage them. It advises how an investor may righteously gather profits without harming society and the environment. Buddhism encourages its followers to think "happiness is the foremost wealth". Considering that thought, Buddhism advises its followers to abstain from doing specific industries (*Sutta Pitaka, anguttara Nikaya, pancake nipatha, Vanijja sutta*).

Under this study, there is clear evidence that Buddhist teachings emphasize risk management, financial decision-making, investments, financial management theories and wealth maximization. According to the Teachings of *Anana Sutta*, Gautama Buddha encouraged to reduce the debt capital. That concept can be integrated with the well-known financial theory, Modigliani and Miller's theory. Based on the teachings of *Sigalovada Sutta*, Buddha has preached to the young disciple *singalaka* how investors should gather wealth righteously and invest that wealth. It makes an effort to present the Buddhist notion of money and incorporates the "*ekena bhoge bunjeyya*" that is described in the *Sigalovada Sutta (Sutta Pitaka, Diga Nikaya-31, Sigalovada Sutta)*. In that also, buddha has advised their lay people to manage the future risk. As mentioned in the *Sigalovada Sutta*, Buddha has advised utilizing wealth by dividing it into four portions. According to those teachings, Buddha has reserved one portion against future misfortunes. It has been mentioned as "*Catutthañ-ca nidhāpeyya, āpadāsu bhavissati*" Supreme Buddha has advised about the industries that can be invested as disciples. Buddhist teachings have provided some advice about four drains on wealth that will result in a loss of wealth. Mindfulness helps in observing risks, and investors should understand the situation, know which one is bad or dangerous and what factors can be used to manage the risks to make better decisions and avoid mistakes. It helps to maintain the mental stability that can be used to make the right decisions. Although, if a person has mindfulness, they will also have equanimity (*upekkha*) (Tantisanghirun, 2019). Additionally, the *Digha Nikaya* (holy Buddhist books) make it clear that the basis of happiness is financial: Buddhist lay adherents may live in economic security (*atthi-sukha*), enjoy prosperity (*bhoga-sukha*), and desire debt freedom (*anana-sukha*) (Obadia, 2015). In relation to that wealth management towards Buddhist perspectives, it advises adopting a 25% dividend payout policy leaving 75% retention for investment (Karunaratne, Business,

Financial, and Risk Management perspectives of buddhist philosophy, 2019). Under the Discourse on Outcast (*Vasala Sutta*), whosoever has incurred debt and is not paying those loans, Buddhism called them *Vasala*. (*Sutta Pitaka, Kuddaka Nikaya, Sutta Nipatha, 1.7 Vasala Sutta*). Based on the pecking order theory, which can be seen in the teachings of a Buddhist philosophy about debt.

## Conclusion

Accordingly, this study finds that Buddhist philosophy provides critical advice on risk management, wealth maximization, financing policy and capital structure, investment policy and dividend policy. The limitation of this study is that it is challenging to cover all the areas, aspects, principles, and theories related to the financial management subject arena, which can ideally be compatible with Buddhist teaching. The recommendations for future researchers are to explore the Buddhist philosophy with the view of competitiveness of the business world, financial theories, leadership for financial management, Human resources management and value maximization in the firms.

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# **The earned/contributed capital mix and the dividend policy: Empirical evidence from listed companies in Sri Lanka**

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## **Introduction**

The ultimate goal of corporate finance is to maximize shareholder wealth. Decisions about dividends, financing, and capital planning assist businesses in achieving this objective. A corporation chooses whether to pay dividends to its shareholders or reinvest the profits when it produces a profit, which initiates the payment of dividends to the shareholders. The life cycle theory of dividends by Mueller (1972) emphasizes that mature and established companies pay higher dividends because they have more resources and undertake fewer investment projects, whereas new companies with limited resources pay lower dividends to finance their investment opportunities. In life cycle explanations, the cost-benefit trade-off between dividend distribution expenses and benefits is implied or obvious. More established businesses generate greater earnings but offer fewer investment opportunities.

As a result, the benefits of dividend distribution usually outweigh the expenses of dividend payment, and companies pay out more dividends. Following Mueller's (1972) study, scholars worldwide have investigated the lifecycle hypothesis and reached diverse conclusions. Some researchers have found that the life cycle of firms affects dividend decisions of firms (DeAngelo et al., 2006; Denis and Osobov, 2008; Brockman and Unlu, 2009; Yusra et al., 2018) while some scholars have contradictory arguments against the life cycle theory (Ishikawa, 2011). On the other hand, some found mixed results for different contexts (Trotz, 2013). In Sri Lanka, though scholars mainly focused on different theories of dividend policy (Dewasiri et al., 2019; Baker et al., 2019), the lifecycle theory, on the other hand, does not spark their comprehensive attention. As a result, this research examines the impact of earned and contributed capital mix on the dividend policy of companies listed on the Colombo Stock Exchange (CSE), focusing on the lifecycle theory of dividends.

## **Methodology**

The population for this study is comprised of the 297 listed businesses on the CSE as of February 18th, 2022. Using the stratified random sample selection approach, 50 companies from different sectors are selected as the sample of the study. Secondary data were collected from the annual reports of the selected companies from 2011 to 2020 (500 observations). Panel data regression analysis was conducted to test the hypotheses of the study.

Earned/Contributed Capital Mix is the independent variable which is proxied through Earned Equity to Total Equity and Earned Equity to Total Assets (DeAngelo et al., 2006), Dividend Payout, which is the dependent variable of the study, is indicated using the dividend payout ratio (DeAngelo et al., 2006). Profitability, sales growth, asset growth, level of capital ownership and firm size are taken as the control variables.

The research model is developed as follows.

$$DP = \beta_0 + \beta_1 RE/TE + \beta_2 RE/TA + \beta_4 PR + \beta_5 SG + \beta_6 AG + \beta_7 LCO + \beta_8 FS + \epsilon_i$$

Where; DP is the dividend payout, RE/TE indicates earned equity to total equity, RE/TA indicates earned equity to total asset, PR is the profitability, SG represents the sales growth, AG is the asset growth, LCO indicates the level of capital ownership, FS is firm size

Hypotheses of the study are established by referring to the past literature.

H<sub>1</sub> = Earned/ contributed capital mix has a significant impact on the dividend policy

H<sub>1a</sub> = Earned equity to total equity has a significant impact on the dividend policy

H<sub>1b</sub> = Earned equity to total asset has a significant impact on the dividend policy

## Findings

The descriptive statistics show that the minimum and maximum dividend payout are -58.278 and 17.357, respectively. The mean value of dividend payout indicates that companies have maintained a dividend payout ratio of 0.124. The standard deviation of 3.439 suggests that the dividend payout is moderately dispersed. Mean values of RE/TE and RE/TA indicate that companies have maintained 44.3% of retained earnings as a percentage of total equity and 23.5% of retained earnings as a percentage of total assets. Furthermore, the standard deviations of RE/TE (0.292) and RE/TA (0.216) indicate that the RE/TE and RE/TA values are slightly dispersed from the mean value. According to the correlation analysis, no multicollinearity issues were identified. The results of the panel data regression analysis are depicted in Table 1.

**Table 1. Results of the Regression Analysis**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.130	1.028	-0.126	0.900
RE_TE	0.419	0.831	0.504	0.615
RE_TA	-1.342**	1.198	-1.120	0.026
PR	1.465**	1.178	1.243	0.021
SG	-0.047	0.154	-0.307	0.759
AG	0.088	0.365	0.241	0.809
LCO	0.011	0.426	0.025	0.980
FS	0.013	0.045	0.280	0.780

\*\* Significant at 5% level.

The research model can be estimated based on the regression outcomes.

$$DP = -0.130 + 0.419 RE/TE - 1.342 RE/TA + 1.465 PR - 0.047 SG + 0.088 AG + 0.011 LCO + 0.013 FS$$

To choose between the fixed effect model and the random effect model, the Hausman test was undertaken. Accordingly, the fixed effect model was determined to be the best suitable model for interpreting the data set. Based on the outcome of the regression analysis, only H<sub>1b</sub> is accepted, while H<sub>1a</sub> is not supported. This outcome indicates that Earned Equity to Total Assets has a significant negative impact on the dividend policy, whereas Earned Equity to Total Equity is not significant. It implies that the higher the Earned Equity to Total Equity dividend payout would be significantly reduced. This outcome indicates that in the Sri Lankan context, there is a higher tendency to increase dividends by younger companies than by more mature ones. Accordingly, the findings of the study contradict the life cycle hypothesis of dividends.

## Conclusion

This study was conducted with the objective of examining the impact of earned and contributed capital mix on the dividend policy of companies listed on the CSE, with a special emphasis on the lifecycle theory of dividends. The study considers data from 50 companies for a period of 10 years by means of 500 observations.

The findings of the study reveal a significant negative impact of earned equity to total asset and dividend policy, demonstrating that most mature companies had high retained earning value, according to the stage of the life cycle, compared to that of their younger counterparts. It proves that the life cycle theory of dividends is not supported in the Sri Lankan context. The findings of the study may stimulate the interest of different stakeholders. Accordingly, when making investment decisions, shareholders and potential investors can examine how the mix of earned and contributed capital impacts dividend policy.

This study is limited to a secondary data analysis using a sample of 50 companies for a period of 10 years. Therefore, it is suggested to extend this study using the triangulation approach to obtain more comprehensive findings for future research.

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## **The impact of market power on the dividend policy of listed companies in Sri Lanka**

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### **Introduction**

In a variety of distinct economic and market contexts, dividend policy is considered to be a controversial topic in the field of corporate finance. A company's dividend policy serves as an indicator of its financial health, solvency, management effectiveness, and overall growth because profitable companies must decide how much and how to distribute their earned profits to shareholders as dividends. Thus, dividend policy refers to a company's decision on whether to distribute current income in the form of dividends to shareholders or maintain profit for future growth (Bhatt, 2021).

On the other hand, a country's market power can be described as a factor in price adjustments to increased levels of fervent rivalry. If a group of participants in a market has greater bargaining power than other groups, market power is established. A firm's market power can be determined by its capacity to influence a product's price over its marginal cost at the output level, which maximizes profits. In addition, the firm is able to stabilize the ebb and flow of its operating income in the face of exogenous economy-wide or firm-specific shocks to which it is exposed in a market when it has some power over its product pricing (Khan et al., 2014). The influence of competition on business risk may differ between organizations because market power impacts the ability of companies to pass through shocks to their customers (Gaspar and Massa, 2006; Irvine and Pontiff, 2009). Consequently, the effect of a firm's market dominance on its business risk provides a framework for understanding recent changes in dividend policy Booth and Zhou (2015).

Researchers have been concentrating their efforts on determining whether or not market power has any bearing on the dividend policies of various nations. Accordingly, recent research by Pham et al. (2020) found an association between competition and dividend payout. They contended that corporations in competitive markets are expected to pay greater dividends and repurchase shares to reduce agency costs. Similarly, Grullon et al. (2019) demonstrated that companies in competitor industries pay larger dividends than corporations in industries with less competition. In contrast, Booth and Zhou (2015) confirmed that businesses with weak market power are riskier and, as a result, declare a lower dividend than firms with stronger market power. They emphasize that since it is anticipated that companies with greater market strength would have stronger and more consistent operating performance in the near future, which suggests lower future business risk, these companies are more likely to make a dividend payment, and when they do, they pay more. Moreover, Khan

et al. (2014) found that firms with greater levels of market competition are subject to high levels of market risk and have a lower likelihood of paying dividends than firms with greater levels of market power. Conversely, Bhatt (2021) concluded that market dominance, a proxy for greater or lesser competition, is not a significant and influential factor in dividend decisions.

Accordingly, the conclusion on the impact of market power is contradictory despite the fact that a plethora of studies has been conducted employing different methodologies to examine competition in a number of established and a few emerging economies. Furthermore, being an emerging country, there is a lack of research that examined the effect of market dominance on the dividend decision of firms in Sri Lanka. Consequently, this study sheds light on the dividend policy controversy for an emerging market in terms of market power.

## Methodology

The study is a quantitative research approach based on a deductive method. Data for this study came from the annual reports of 60 companies selected out of 286 companies in the 19 sectors of the CSE in Sri Lanka. The statistics will cover the five years from 2016 to 2020. Data were analyzed using descriptive, correlational, and regression methods using Eviews statistical software.

Dividend policy, the dependent variable, is measured using the dividend payout ratio and the independent variable of market power is proxied through the Lerner index, which is measured by dividing operating profit before depreciation by sales. Investment opportunities measured by the market-to-book ratio, profitability measured through operating profit margin, and firm size indicated through the logarithm of total assets were employed as the study's control variables. Referring to the past literature (Bhatt, 2021; Khan et al., 2014; Booth and Zhou, 2015), variables for the study were identified, and hypotheses were developed.

H<sub>1</sub>: Market power has a significant impact on the dividend policy of listed companies in the Colombo Stock Exchange

The study uses a panel data regression model to identify the impact of market power on the dividend policy of listed companies. Accordingly, the research model is developed as follows,

$$DP_{it} = \beta_0 + \beta_1 MP_{it} - \beta_4 INO_{it} + \beta_5 SIZE_{it} + \beta_6 PRF_{it} + \varepsilon_{it}$$

Where; DP is the dividend policy, MP indicates the market power, INO represents the investment opportunities, SIZE means the firm size, PRF is the profitability,  $\beta_0$  is the constant,  $\beta_1 - \beta_6$  are the coefficients of variables,  $\varepsilon$  is the error term.

## Findings

The statistical analysis of the measures used in this study shows that the average dividend payout ratio is 0.595, while 31.250 is the highest dividend payout and the lowest payout is -9.091. The average value of the Lerner Index, which represents the market power, is 0.43, indicating that the market competition is moderately less in Sri Lanka. That means companies in Sri Lanka are neither completely competitive with one another nor do they hold monopoly influence. The results of the correlation analysis show no multicollinearity issues among variables.

**Table 1: Results of Regression Analysis**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.722	1.474	1.846	0.066
MP	0.226**	0.111	2.046	0.042
INO	0.001	0.001	0.218	0.828
SIZE	-0.096	0.064	-1.493	0.137
PRF	-0.009	0.012	-0.709	0.479

\*\* Significant at 5% level

As per the results indicated in Table 1, the Lerner index has a positive significant impact on the dividend policy, persuading us to accept  $H_1$ . It implies that the dividend payout is encouraged when the firm's market power increases. Companies with greater market strength will have more robust and predictable operating performance, which signals lower future business risk. These companies will also pay higher dividends than firms that are experiencing more competition in the market. Our findings are consistent with Khan et al. (2014) and Booth and Zhou (2015).

## Conclusion

The purpose of this paper was to ascertain the impact of the market power on the dividend policy of listed firms in Sri Lanka, which is an emerging country. We studied the data from 2016 to 2020 based on a sample of 60 companies listed on the CSE. Using the Lerner Index (LI), a non-structural measure of market power, the empirical findings support the hypothesis of the research indicating that market power has a positive and statistically significant effect on dividend payout. The fact that businesses with more market domination are expected to have stronger and more stable operating performance in the near future, which suggests lower future business risk, is another explanation for this advantageous effect. The study's findings would benefit shareholders and future investors in making investment decisions, allowing them to select companies to invest in based on the company's market power or level of market competition. The insights of the findings would also assist management in identifying the optimal dividend policy for the company.

Since there are also behavioral explanations for dividend policy, the perceptions of management and shareholders towards payouts would influence the dividend decision of the firm. In light of this, it is recommended that future research incorporate these viewpoints in addition to secondary data analysis.

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