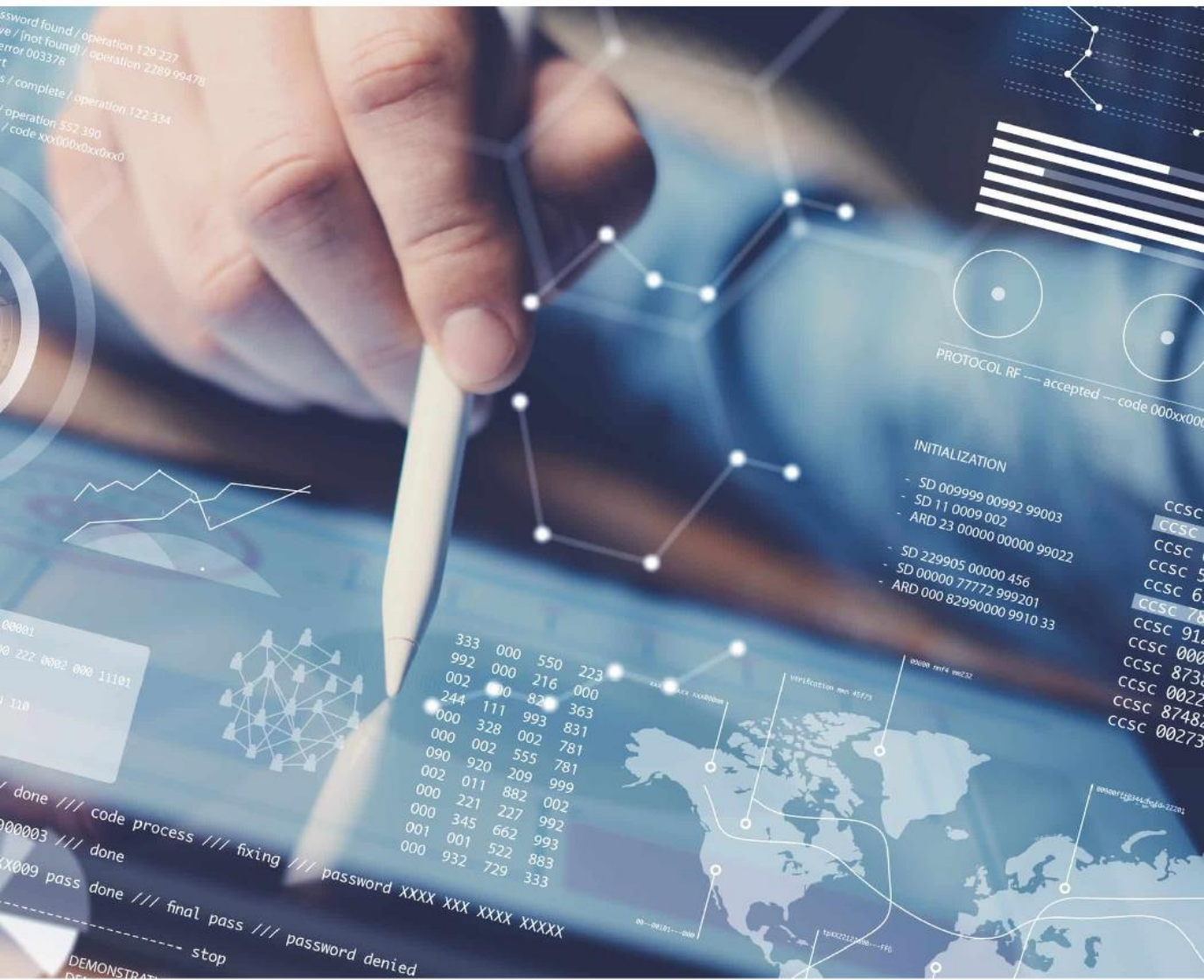


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International Journal of Contemporary Business Research is published bi-annually by the Faculty of Business, NSBM Green University, Sri Lanka.

Objectives

International Journal of Contemporary Business Research (IJCBR) is published by the Faculty of Business, NSBM Green University. It is a journal that promotes critical and creative research in sub-disciplines relate to business relationship. It expects to be the voice of scholars and practitioners by providing an international forum to disseminate their knowledge. Promoting excellence by providing a venue for researchers to publish current and significant empirical and conceptual research to enhance the academy of knowledge and wisdom is the core pillar of the perspective mandate of the IJCBR. In order to the foster beneficial discussion between traditional and contemporary notions, this journal focuses original and innovative research, along with novel analysis. The journal promotes original academic research in Management and other related disciplines.

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All correspondence regarding journal papers should be sent to Ms. Rhythmani Perera, Editorial Assistant (rythmani.p@nsbm.ac.lk). Sales requests should be addressed to the Librarian, NSBM Green University (library@nsbm.ac.lk).

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FROM THE EDITOR

As the Editor-in-Chief, it is my pleasure to extend a warm welcome to readers as they explore the second volume of the International Journal of Contemporary Business Research (IJCBR), brought to you by NSBM Green University.

The IJCBR represents an ambitious endeavor aimed at examining, analyzing, encapsulating, and disseminating the intricate relationships and complexities that characterize today's business landscape. Building upon the first edition's accomplishments, this second installment seeks to showcase innovative theories and practices emerging from interdisciplinary collaboration. Comprising a total of seven articles, this issue predominantly delves into Management, Finance, Economics, Law, Operations, and Tourism fields.

Highlighting the importance of a solid fiscal policy for the stability of a nation, the first study co-authored by Piyumalee T. and Kumanayake N.S. examines the relationship between government revenue and expenditure in Sri Lanka within the last two decades. The article brings attention towards the local fiscal policy by identifying disparities between existing literature and new findings, thereby prompting further research discussions in the area.

The second article written by Weerasinghe K.W.A.M, acknowledges the rapid development of Sri Lanka's finance leasing sector in favor of low-income earners and seeks to identify and examine the existing law, its implementation, and loopholes in order to make valuable recommendations for improvement. The recommendations provided by the researcher after conducting a thorough comparative analysis, will indeed be an asset in improving the legal protection offered to lessees in Sri Lanka.

The third research study examines the impact of attitude, subjective norms, and financial self-efficacy on retail investors' investment intentions in Sri Lanka. The researcher, Gamage K.G.C.D, examines the relationship between psychological factors and investment intention and implicates the importance of the research findings for investment advisors in providing advice and creating awareness programs about stock market investments.

Adding to the plethora of research conducted on organizational citizenship behaviour, the fourth article takes on examining the relationship between organizational citizenship behaviour and emotional intelligence in real time

through the analysis of gathered data. The authors, Guruge S.Y. and Yapa C.G. provide the readers with insight on methods that could be used to improve organizational performance by focusing on the individual, thereby emphasizing the importance of human resource management.

The study conducted by Chanchala B.T., Joseph S. aims to determine the significant impact of organizational and technological barriers on the adoption of green supply chain techniques in Sri Lankan food and beverage manufacturing companies. As the main outcome of this study, the researcher recommends that Sri Lankan companies take action to overcome organizational and technological barriers to implement GSCM practices in their organizations in order to reap significant benefits in the long run.

Pointing out the Sri Lanka's significant reliance on migrant remittances for economic survival the sixth article presented by Sooriarachchi T. identifies the negative impact on the country due to a significant decrease in remittances from Sri Lankan expatriates between the last two years. The paper investigates the main motivating factors driving the decline in migrant remittances to Sri Lanka through a thorough analysis of responses received during semi-structured interviews conducted. Further, the research sheds light on the growing necessity to increase governmental involvement in developing advanced policies and procedures to increase migrant remittances.

Next, Shaja M.M.M., Sobika M., and Bandara Y.M. undertook a study focused on estimating the marginal productivity of roads in Sri Lanka. Their research involved analyzing the correlation between GDP, road stock, and vehicle stock to gain insights into the marginal productivity of roads. The findings from this study are valuable for transport planners as they provide an understanding of the economic implications of road infrastructure planning. Additionally, it sheds light on the dynamics underlying infrastructure development and its potential benefits to the national economy.

The concluding research paper published in IJCBR analyses ecotourism consumer behaviors, focusing on motivation, intention, and actual behavior while observing the willingness to pay premium for ecotourism services provided. The article written by Weerasekera D., and Assella P. focuses on the intrinsic and extrinsic motivation factors that influence the growth of ecotourism consumption in hopes of providing practical implication possibilities to ecotourism providers, marketers, policymakers, and decision-makers to encourage sustainable tourism consumption.

The Editorial Board of this publication fervently desires that budding academics across the globe can derive advantages from the distinctive research experiences and endeavors shared by the featured authors. Additionally, the Editorial Board would like to express their gratitude towards those who contributed content, reviewed papers, and participated in the journal's editing, publishing, and printing processes. The ongoing support offered by the Advisory Board and Board of Management at NSBM Green University in this endeavor is also duly recognized and appreciated.

Prof. Lester Johnson

Editor – in – Chief

The Causal Relationship between Government Revenue and Expenditure in Sri Lanka

Piyumalee T.¹, Kumanayake N.S.²

¹*NSBM Green University, Sri Lanka.*

tharushi.h@nsbm.ac.lk¹

²*Sri Lanka Customs, Sri Lanka.*

ns_kumanayake@yahoo.com²

Abstract

The fiscal policy is an important component of the macroeconomic stability in any country. Economies have to struggle with many economic challenges, when there are huge budget deficits over the period of time. Therefore, it is very much important to reduce the budget deficit while increasing revenue and reducing expenditure. In order to accomplish that purpose, identifying the interrelationships and interdependencies between revenue and expenditure is necessary. The main purpose of the study is to examine the causal relationship between government revenue and government expenditure in Sri Lanka over the period from 1980-2021 using Granger Causality test and Vector Error Correction (VEC) model. The empirical results show that there was no causal relationship between government revenue and expenditure, in other words, no unidirectional or bidirectional relationship between these two variables. Since this finding is contradictory with the previous findings further analysis has been suggested.

Keywords: Government Revenue, Government Expenditure, Vector Error Correction Model, Granger Causality Test

1. Introduction

The success of fiscal policy largely depends on the distribution of government expenditure and the amount of revenue collected. By comprehending the connection between government spending and revenue, it is possible to avoid persistent budget deficits. This relationship has been a widely researched subject in the field of public finance and is particularly crucial for countries in Asia, such as Sri Lanka, which have struggled with ongoing budget deficits for several decades. In fact, Sri Lanka has had budget surpluses in 1954 and 1955, but has otherwise faced persistent budget deficits for over seven decades (Ravinthirakumaran, 2011).

Considering the situation in Sri Lanka, as mentioned above it has been experiencing a budget deficit for more than seven decades and the deficit has widened over the period of time. Figure 1 shows the behavior of government revenue and expenditure in Sri Lanka from 1990-2021. It clearly shows that both government revenue and expenditure have increased and negative the gap between revenue and expenditure has widened over the period of time. Figure 2 represents the budget deficit in Sri Lanka from 1990-2021 which shows a drastic increment from 1990 to 2021.

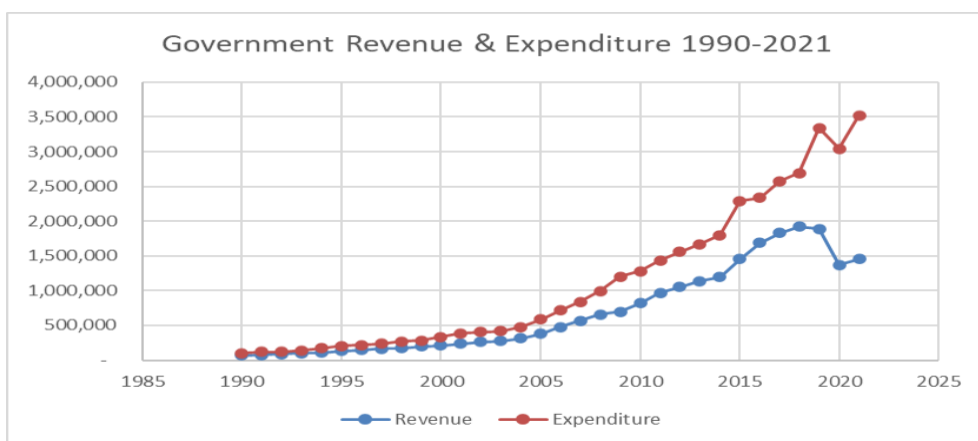


Figure 1: Government Revenue and Expenditure in Sri Lanka, 1990-2021

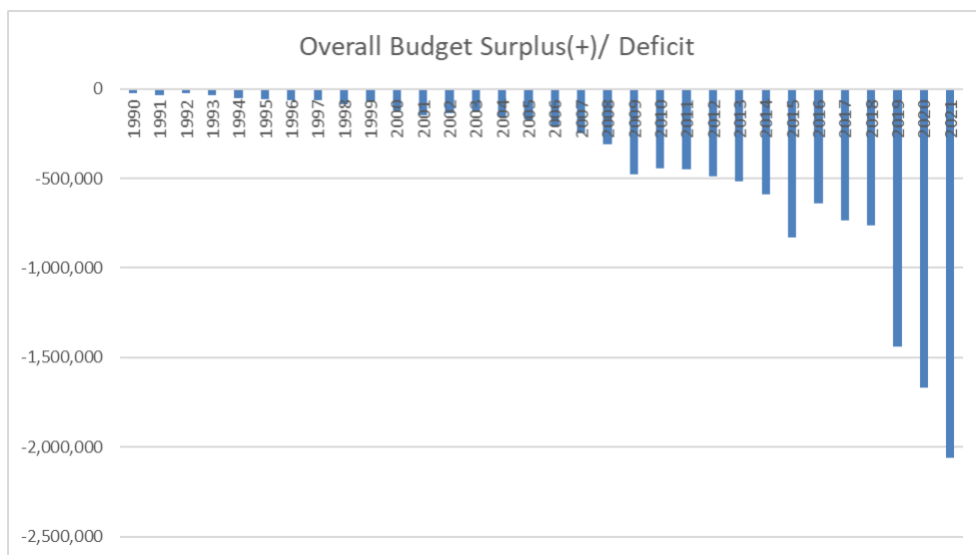


Figure 2: Overall Budget Surplus/ Deficit in Sri Lanka, 1990-2021
 (Source: Central Bank Data Library)

Not only in Sri Lanka budget deficit is one of the biggest economic challenges in many countries specifically in developing countries. As Arjomand et al. (2016) explains in the reviewed literature of their study these budget deficits lead to expanding activities of the government and increasing government expenditure which is a major part of the aggregate demand. On the contrary, in the side of revenue, the government does not have sufficient funds to recover these huge expenses. With that, it creates a persistent budget deficit. Even though the government spending increases, the supply may not response to these increments because of the structural issues and the supply unattractiveness. These consequences may lead to create inflationary situation in the economy. If the government finances this deficit by using the banking channel, it may cause to increase inflation further. In addition to that, with the increment of the aggregate demand which occurs due to increasing government purchases, it may also move to the external sector of the economy by having increasing imports and decreasing exports, which ultimately creates a deficit in the current account as well (Arjomand et al., 2016). Tanzi (1985) investigates the relationship between budget deficit and interest rate using empirical data from the United States, and as per his study findings there is a positive relationship between the budget deficit and interest rate; higher the budget deficit higher the interest rate. Higher interest rates may result in lower investments which negatively affects on the economic growth of the country.

In a summary as Eisner (1989) explains Budget deficits can lead to high inflation, increase interest rates, result in trade deficits, reduce investment, and represent an irresponsible burden on the future.

As a matter of fact, the budget deficit is harmful to any economy. Therefore, reducing the deficit is important. To accomplish this purpose, either the government should reduce the government expenditure or increase the government revenue, which requires to identify the interrelationships and interdependencies between government revenue and government expenditure. The causal relationship between government revenue and government expenditure has been empirically studied for different countries, and the same study has been conducted for Sri Lanka by Ravinthirakumaran (2011) using data from 1971 to 2009. It suggests a bi-directional relationship between government revenue and expenditure. This study is directed to confirm the result of the previous empirical study by expanding the dataset from 1980 to 2021 while introducing a new variable “Gross Domestic Product (GDP)” to capture other shocks. In addition to finding the causal relationship between government revenue and expenditure, this study aims to find the long-run relationship between those two variables and to establish an impulse response function to explain dynamic effects of the model among selected variables based on VECM approach.

2. Literature Review

Based on the previous literature three developed hypotheses can be extracted, namely, tax and spend hypothesis, spend and tax hypothesis and fiscal synchronization. The tax and spend hypothesis represent a unidirectional causal relationship which runs from government revenue to expenditure, which means an increase in tax revenue will lead to increase government expenditure (Buchanan & Wagner, 1977; Friedman, 1978). The spend and tax hypothesis show a unidirectional relationship which runs from government expenditure to government revenue (Baghestani & Mcnown, 1994; Barro, 1974; Peacock & Wiseman, 1979). The hypothesis implies that during a crisis, government spending and taxation become more entrenched, or firmly established. The reason for this is that the temporary rise in government spending that occurs during a crisis transforms into a long-lasting aspect of the government's budget. The crisis creates a requirement for extra public services and creates a view among the public that the government is more important for their well-being. This view then leads to a

permanent increase in taxation to support the increased government spending. The hypothesis suggests that crisis events can act as a trigger for lasting changes in government financial policies and that the initial impact of the crisis can result in a larger and more established government. Fiscal synchronization is the third hypothesis which implies a bidirectional relationship between government revenue and government expenditure, further it explains that both revenue and expenditure decisions are jointly and simultaneously determined (Meltzer & Richard, 1981; Musgrave, 1966).

In the finance literature, there is a wide range of studies which have been conducted to comprehend the causal relationship between government revenue and expenditure. Sanjeev (2004) has conducted a study to examine the causal relationship between government revenue and government expenditure in Mauritius and as per their findings there is a unidirectional causal relationship which runs from revenue to expenditure in Mauritius. As Anderson et al. (1986) stated in their study that there was no indication that an increase in federal taxes would result in either an increase or a decrease in future federal spending, there was a compelling evidence that increased spending would result in higher tax rates in the future, which states there is a unidirectional relationship between government revenue and expenditure which runs from expenditure to revenue in United States of America (USA). Al- Zeaud (2015) has studied the same subject by using data from Jordan and the study has been concluded with the approval of fiscal synchronization, in other words bidirectional relationship between government revenue and expenditure in the case of Jordan. As per the findings of the study which has been done by Elyasi & Rahimi (2012), there is a bidirectional relationship between public revenue and tax in Iran in both short-run and long-run. Ndahiriwe & Gupta (2007) has investigated the causal relationship between government revenue and expenditure in South Africa by using both annual and quarterly data from 1960-2006 and they have incorporated two control variables; Gross Domestic Product (GDP) and public debt. As per their findings of quarterly data analysis, there is a bidirectional relationship between government revenue and tax, but for annual data it has not suggested any type of Granger Causality. The collection of studies has been carried out for different countries to enquire the relationship between government expenditure and government revenue, and those studies have proven that one of the above-mentioned hypotheses can be applied to the scenario of the respective country (Al-Quadair, 2005; Aslan & Taşdemir, 2009; Manage & Marlow, 1986; von Furstenberg et al., 1986).

Considering the Sri Lankan situation, Ravinthirakumaran (2011) has studied the causal relationship between government revenue and government expenditure by using data from 1971-2009. As per the findings, there is a bidirectional relationship between revenue and tax. This study aims to test the same subject by expanding the dataset from 1980-2021, while introducing a new variable; GDP. As a value addition to the previous article, this study establishes the impulse response function and variance decomposition to identify the dynamic effects of these three variables.

3. Methodology

As mentioned earlier, the main objective of this study is to find out the causal relationship between government revenue and government expenditure. Subsequently, this study is directed to identify the long-run impacts of these variables and to establish impulse response function to identify the short-run dynamics of these variables.

The selection of variables has been done by using previous literature articles. Referring to the existing literature, Sanjeev (2004) has used national income as a control variable which captures external shocks. Ndahiriwe & Gupta (2007) has investigated the causal relationship between government revenue and expenditure in South Africa by using annual and quarterly data from 1960-2006 and they have incorporated GDP as a control variable. Other than the main variables (government revenue and expenditure) this study uses GDP as a control variable. Government revenue excluding grants and total government expenditure in Sri Lanka have been taken for the analysis from the Central Bank Data Library. GDP values for Sri Lanka have been obtained from the World Bank Data Library. The study uses timeseries data covering the period from 1980 to 2021. Log values of all the variables have been taken to make the analysis simple while removing large numbers from the dataset.

The analysis commences with the unit root test by using both Augmented Dickey Fuller (ADF) and Phillips-Perron test. If the data set is stationary, Vector Autoregressive (VAR) model is applied, and if it is non-stationary with cointegration relationships Vector Error Correction (VEC) model is used for the analysis. Subsequently, the Granger Causality Test is used to test the causal relationship and impulse response function and variance decomposition to identify the dynamic effects of these three variables.

4. Data Analysis

4.1. Stationarity Test

The commonly used unit root tests: ADF and PP test to check the stationarity of *lge* (log of government expenditure), *lgr* (log of government revenue) and *lgdp* (log of GDP). As per the test results in Table 1, *lge*, *lgr* and *lgdp* variables are not stationary at levels. As per the test results in Table 2, *lge* and *lgr* variables are stationary at the first difference based on results obtained from both ADF and PP tests. The *lgdp* variable is stationary at the first difference based on PP test, and based on ADF it is stationary at the second difference.

Table 1: Unit root test results at levels

Variable	ADF Level	PP Level
<i>lge</i>	-1.889197(0.3341)	-2.098870(0.2461)
<i>lgr</i>	-2.4114862(0.1439)	-2.202108(0.2086)
<i>lgdp</i>	-2.423128(0.1419)	-1.962132(0.3018)

Table 2: Unit root test results at first difference/ second difference

Variable	ADF Level	PP Level
<i>lge</i>	-4.745570(0.0004) <i>I</i> (1)	-7.309864(0.0000) <i>I</i> (1)
<i>lgr</i>	-4.563682(0.0007) <i>I</i> (1)	-4.563682(0.0007) <i>I</i> (1)
<i>lgdp</i>	-11.88422(0.0000) <i>I</i> (2)	-5.050635(0.0002) <i>I</i> (1)

4.2 Estimation of VAR Model

The first issue of the VAR model is to determine the number of optimum lag intervals. There are several methods to determine the optimum level of lags. This study uses the Maximum Lag Length Criteria and AR Roots Graph to determine the optimum lag length.

Table 3: Maximum Lag Length Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	13.54059	NA	0.000114	-0.569761	-0.439146	-0.523714
1	155.2643	252.8045	8.72+08	-7.744019	-7.221559*	-7.559827*
2	160.3806	8.296588	1.09+07	-7.534085	-6.619780	-7.211750
3	169.5851	13.43361	1.11e-07	-7.545140	-6.238990	-7.084661
4	179.2383	12.52303	1.13+07	-7.580446	-5.882452	-6.981824
5	195.8282	18.83180*	8.16+08*	-7.990712*	-5.900873	-7.253946

According to Table 3, based on Akaike Information Criteria (AIC), Final Prediction Error (FRE) and sequential modified LR test statistic, it can be found that the optimal lag order for VAR model is 05. After determining the optimum lag structure, the VAR model is reestablished with 05 lags, and AR root graph has been obtained. As Figure 3 shows that mode of reciprocal of each characteristic root is inside the circle, which indicates that 05 is the optimum lag length.

Inverse Roots of AR Characteristic Polynomial

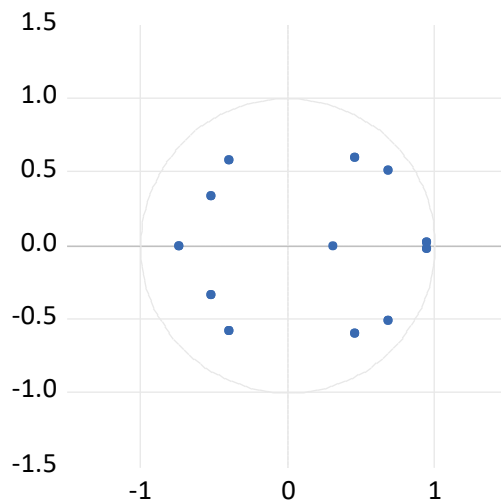


Figure 3: AR root graph

4.3 Cointegration Test

Since the dataset is non-stationary at levels, the Johansen cointegration test is applied to examine the existence of the cointegration relationships. As Table 4 and Table 5 present both Trace and Maximum Eigen value tests reject the null hypothesis which states that there is no cointegration relationship among *lge*, *lgr* and *lgdp* variables at 5% significance level. This indicates that there are stable and long run equilibrium relationships among these three variables. With the existence of cointegration relationships, VEC model can be developed further with respect to this study.

Table 4: Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.674254	47.93937	29.79707	0.0002
At most 1	0.134397	6.438776	15.49471	0.6436
At most 2	0.029255	1.098592	3.841465	0.2946

Table 5: Unrestricted Cointegration Rank Test (Maximum Eigen Value)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.674254	41.50060	21.13162	0.0000
At most 1	0.134397	5.340184	14.26460	0.6984
At most 2	0.029255	1.098592	3.841465	0.2946

4.4 Estimation of VECM

Since the lag order VAR model is 05 the optimum number of lags for VEC model should be 04. Table 6 shows the estimates of the VEC model and based on the cointegration equation long- run relationship of these variables can be determined (Equation 1).

Equation 1

$$lge_{t-1} = 0.702160lgr_{t-1} - 1.43425lgdp_{t-1} - 1.192470$$

Equation 1, it can be seen that, when other things remain constant, each percentage point increase in government expenditure will cause to increase of 0.702160 percentage points in government revenue, and each percentage point increase in government expenditure will cause to decrease of 1.434253 percentage points in gross domestic product.

Based on the estimated results of VEC model, Equation 2, Equation 3 and Equation 4 have been estimated in order to calculate the speed of adjustment $(1 - \theta)$ of each variable. Respective estimations are given in Table 7.

Table 6: Vector Error Correction Estimates

Cointegration Equation	
Variable	ADF Level
LGE(-1)	1.000000
LGR(-1)	0.702160 (0.17449)
LGDP(-1)	-1.434253 (0.14911)
C	-1.192470

Error Correction:	D(LGE)	D(LGR)	D(LGDP)
CointEq1	-0.808358 (0.32036)	-0.875078 (0.40907)	0.285915 (0.24988)
D(LGE(-1))	0.434922 (0.36561)	0.881251 (0.46684)	-0.164457 (0.28517)
D(LGE(-2))	0.482734 (0.32830)	0.895962 (0.41920)	0.168688 (0.25607)
D(LGE(-3))	0.143682 (0.34668)	0.327006 (0.44267)	0.097091 (0.27041)
D(LGE(-4))	-0.008397 (0.25957)	0.435781 (0.33145)	0.005959 (0.20247)

D(LGR(-1))	0.139145 (0.19947)	0.226097 (0.25470)	-0.042580 (0.15558)
D(LGR(-2))	0.166374 (0.22971)	-0.349303 (0.29331)	-0.355449 (0.17917)
D(LGR(-3))	0.054154 (0.22897)	0.005553 (0.29237)	-0.274180 (0.17859)
D(LGR(-4))	0.615881 (0.23746)	-0.015292 (0.30321)	-0.165961 (0.18522)
D(LGDP(-1))	0.029784 (0.38522)	-0.025166 (0.49189)	0.168583 (0.30047)
D(LGDP(-2))	-0.035165 (0.30694)	0.038309 (0.39193)	0.677635 (0.23941)
D(LGDP(-3))	-0.696608 (0.38293)	-0.446832 (0.48896)	0.380095 (0.29868)
D(LGDP(-4))	-0.747387 (0.40305)	-0.624355 (0.51466)	0.070917 (0.31438)
C	0.072203 (0.06105)	-0.029640 (0.07795)	0.041837 (0.04762)

Equation 2

$$\begin{aligned}
 D(LGE) = & C(1)*(LGE(-1) + 0.70215976621*LGR(-1) - \\
 & 1.43425258409*LGDP(-1) - 1.19246999593) + C(2)*D(LGE(-1)) + \\
 & C(3)*D(LGE(-2)) + C(4)*D(LGE(-3)) + C(5)*D(LGE(-4)) + C(6)*D(LGR(- \\
 & 1)) + C(7)*D(LGR(-2)) + C(8)*D(LGR(-3)) + C(9)*D(LGR(-4)) + \\
 & C(10)*D(LGDP(-1)) + C(11)*D(LGDP(-2)) + C(12)*D(LGDP(-3)) + \\
 & C(13)*D(LGDP(-4)) + C(14)
 \end{aligned}$$

Equation 3

$$\begin{aligned}
 D(LGR) = & C(15)*(LGE(-1) + 0.70215976621*LGR(-1) - \\
 & 1.43425258409*LGDP(-1) - 1.19246999593) + C(16)*D(LGE(-1)) + \\
 & C(17)*D(LGE(-2)) + C(18)*D(LGE(-3)) + C(19)*D(LGE(-4)) + \\
 & C(20)*D(LGR(-1)) + C(21)*D(LGR(-2)) + C(22)*D(LGR(-3)) + \\
 & C(23)*D(LGR(-4)) + C(24)*D(LGDP(-1)) + C(25)*D(LGDP(-2)) + \\
 & C(26)*D(LGDP(-3)) + C(27)*D(LGDP(-4)) + C(28)
 \end{aligned}$$

Equation 4

$$\begin{aligned}
 D(LGDP) = & C(29)* (LGE(-1) + 0.70215976621*LGR(-1) - \\
 & 1.43425258409*LGDP(-1) - 1.19246999593) + C(30)*D(LGE(-1)) + \\
 & C(31)*D(LGE(-2)) + C(32)*D(LGE(-3)) + C(33)*D(LGE(-4)) + \\
 & C(34)*D(LGR(-1)) + C(35)*D(LGR(-2)) + C(36)*D(LGR(-3)) + \\
 & C(37)*D(LGR(-4)) + C(38)*D(LGDP(-1)) + C(39)*D(LGDP(-2)) + \\
 & C(40)*D(LGDP(-3)) + C(41)*D(LGDP(-4)) + C(42)
 \end{aligned}$$

Table 7: Speed of Adjustment

Coefficient	Speed of Adjustment (Estimation)
<i>C(1)</i>	-0.808358 (0.0190)
<i>C(15)</i>	-0.875078 (0.0433)
<i>C(29)</i>	0.285915 (0.2643)

4.5 Granger Causality

The test for cointegration indicates that there is a stable long-term relationship between the two variables. However, to determine if there is a causal relationship between them, additional testing is required. If variable A is useful for forecasting variable B, meaning that past values of A are included in the regression of B along with past values of B, this can significantly improve the explanatory power of the regression. If A is a factor that precedes changes in B, it is considered a Granger cause of B; otherwise, it is considered a non-Granger cause. The p- value obtained is less than the predetermined significance level of 5%, which indicates that the null hypothesis of the existence of a Granger cause should be accepted. Based on this study, any of the variable does not Granger cause with other variables at 5% significance level. Considering government revenue and government expenditure in Sri Lanka, they do not show any unidirectional or bidirectional relationship for annual data taken from 1980 to 2021.

Table 8: Granger Causality Test Results

Null Hypothesis:	Obs	Prob.	Null Hypothesis
LGR does not Granger Cause LGE	42	0.4239	Do not reject
LGE does not Granger Cause LGR		0.4676	Do not reject
LGDP does not Granger Cause LGE	38	0.0727	Do not reject
LGE does not Granger Cause LGDP		0.2751	Do not reject
LGDP does not Granger Cause LGR	38	0.0618	Do not reject
LGR does not Granger Cause LGDP		0.2813	Do not reject

4.6 Impulse Response Function

To better understand how the model reacts to specific shocks and how those reactions affect the three variables, additional examination is conducted using VECM-based impulse response functions and variance decomposition. The outcomes of this analysis are obtained for a period of ten.

Response of lge to lge: When there is a shock in lge, lge will gradually decrease up to the fourth time period, then it will start to increase. It will reach to its maximum in the ninth time period.

Response of lge to lgr: When there is a shock of lge, lgr will not show any changes in the first period and will show a drastic increase in the second period, then it will show a slow increment in the third period. It will reach to its lowest (zero) in the fourth period and then again will start to increase.

Response of lgr to lge: When there is shock of lge, lgr will slowly increase and it will reach to its maximum in the ninth period and then will start to decline.

Response of lgr to lgr: When there is a shock of lgr, lgr will show an increment up to the second time period and will start to decrease sharply till the fifth time period and then again start to increase.

Response of lgdp to lge: When there is shock of lgdp, lge will show slow increment up to the sixth time period, and then it will become much stable up to the eighth time period and the show very little decline.

Response of lgdp to lgr: When there is shock of lgdp, lgr will increase up to the third time period, and decline up to the fifth time period, that value will remain the same in the sixth time period. After the sixth time period it will start to increase and reach its maximum in the eighth time period and will decline later

Response to Cholesky One S.D. (d.f. adjusted) Innovations

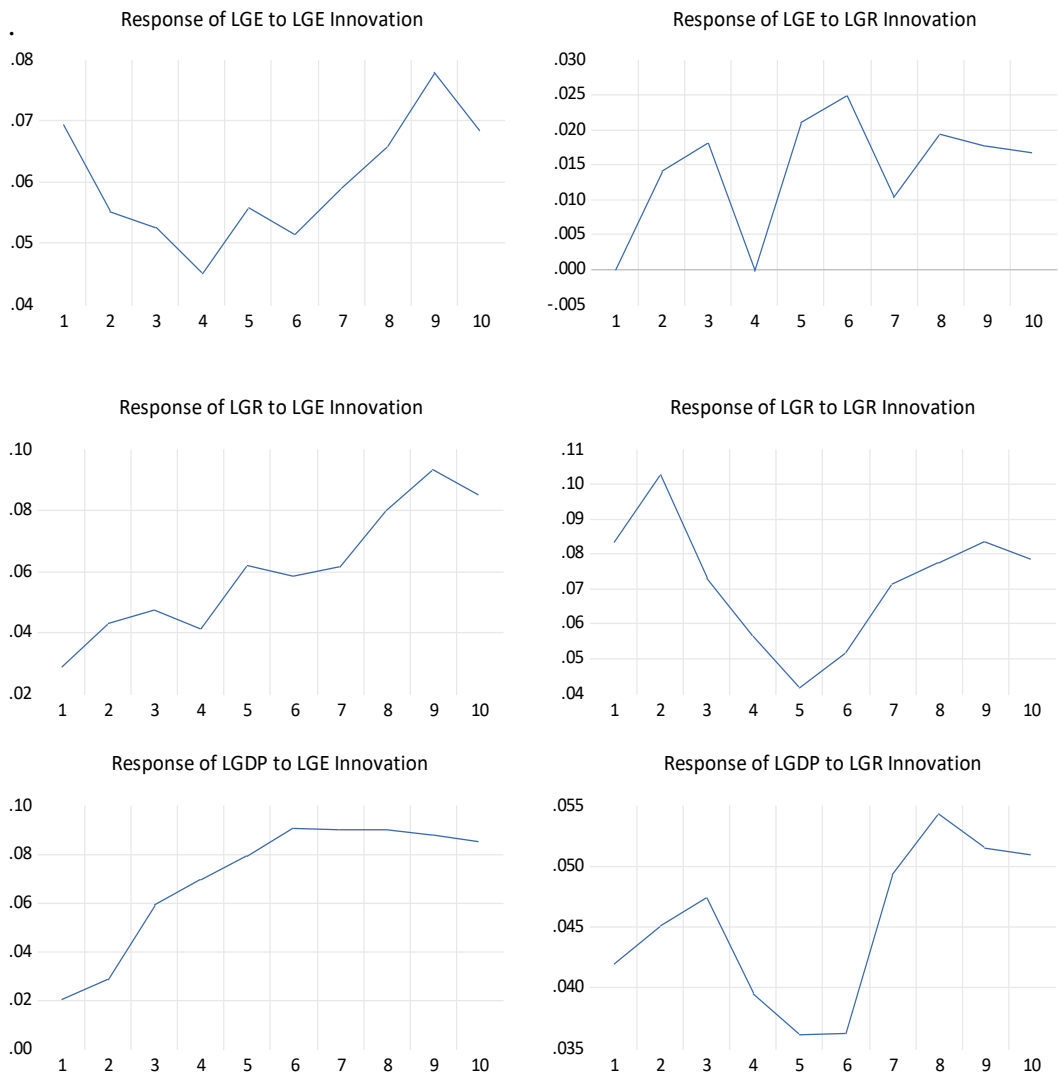


Figure 4: Impulse Response Functions

4.5 Variance Decomposition

The impulse response function is utilized to depict how a system's shock impacts an internal variable, while variance decomposition is the process of breaking down the mean square error into the individual contributions of each variable. Variance decomposition can be employed to examine how the update of each variable affects the others, revealing their relative effects.

According to Figure 5, contribution of *lge* in *lge* predicted variance declines from the first period, reaches around 76% in the seventh period and becomes stable. *lgr* and *lgdp* contributions respectively rise to 5.5% and 17.5% by the end of the 10th period. In *lgr* predicted variance, contribution of *lgr* decline from the first period, reaches around 53.7% in the seventh period and becomes stable. *lge* and *lgdp* contributions respectively rise to 35.7% and 15.4% by the end of the 10th period.

In summary, considering the situation in Sri Lanka there is a long run relationship among selected variables (government revenue, expenditure, and GDP), but any of variable does not show any causal relationship.

Variance Decomposition using Cholesky (d.f. adjusted) Factors

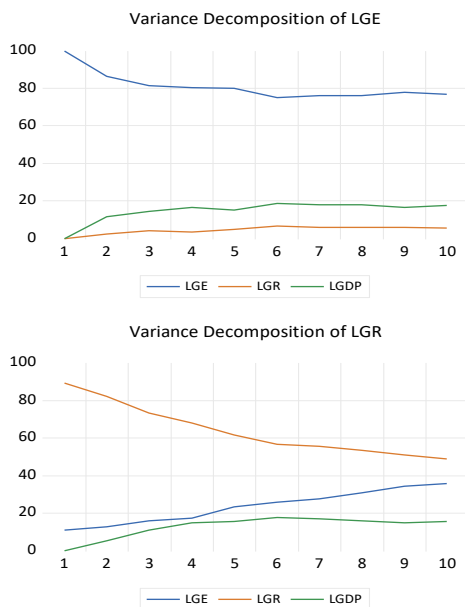


Figure 5: Variance Decomposition

5. Conclusion

In conclusion, this article established an econometric model to investigate the causal relationship between government revenue and government expenditure in Sri Lanka, using annual data from 1980 to 2021. Building upon the data analysis method employed by Ndahiriwe & Gupta (2007), this study introduced the variable GDP in addition to government revenue and government expenditure. The analysis employed a VEC model and Granger Causality test.

Contrary to the findings of a previous study conducted by Ravinthirakumaran (2011) for Sri Lanka, which suggested a bidirectional relationship between government revenue and expenditure based on data from 1971 to 2009, the results of this analysis indicate that there is no Granger Causality between Sri Lankan government expenditure, revenue, and GDP. Thus, it can be inferred that the growth of government expenditure does not necessarily promote government revenue, and the growth of government revenue does not lead to increased government expenditure.

Based on these research findings, two further avenues for investigation can be recommended. Firstly, conducting separate analyses for two distinct time periods, specifically from 1980 to 2000 and from 2001 to 2021, would enable a comparison and provide insights into any potential changes in the causal relationship between government revenue and expenditure in Sri Lanka over time. Secondly, considering the study by Ndahiriwe & Gupta (2007), which utilized both annual and quarterly data to examine the causal relationship, it is recommended that future research should incorporate quarterly data to better understand the dynamics of the relationship between government revenue and expenditure in Sri Lanka.

By expanding the scope of analysis and incorporating different time periods and data frequencies, further research can contribute to a more comprehensive understanding of the causal relationship between government revenue and expenditure in the context of Sri Lanka, providing valuable insights for policymakers and researchers alike.

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Legal Protection Afforded to Lessees: A Critical Analysis of Vehicle Leasing Law in Sri Lanka

Weerasinghe K.W.A.M.¹

*¹University of Jaffna, Sri Lanka
achinimaneesha83@gmail.com¹*

Abstract

The finance leasing sector in Sri Lanka has developed rapidly as it caters low-income people. The Finance Leasing Act No 56 of 2000 (FLA) was passed to govern the finance leasing sector, separating it from hire purchase which was governed under the Consumer Credit Act No 29 of 1982. The research mainly examines the existing law, its implementation and whether it provides protection to the parties in Sri Lanka. The research detects the gaps in the law and makes recommendations to the existing law to foster better protection to the parties, mainly the lessees. This is done on the basis of a comparative analysis of Vehicle Leasing Law prevailing in the jurisdictions of the US and Australia.

Keywords: Finance leasing, protection of Lessees

1. Introduction

Finance Leasing is currently one of the well-known and a common transaction method in Sri Lanka for middle- and low-income people. A finance leasing (also known as a capital lease or sales lease) is a type of lease in which a fiancé company is the legal owner of the asset for the duration of the lease, while the lessee not only has operating control over the asset, but also some share of the economic risks and returns from the change in the valuation of the underlying asset. It is a commercial arrangement where:

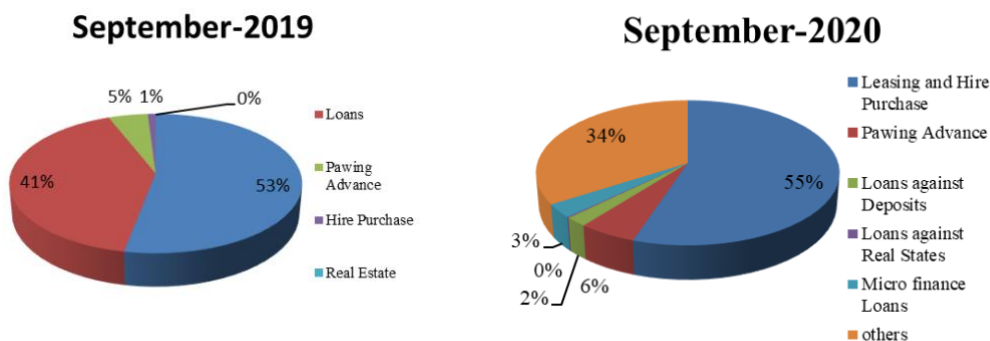
- Party 1: the lessee (customer or borrower) will select an asset (vehicle or equipment).
- Party2: the lessor (finance company) will purchase that asset.
- Party 3: the supplier (Car Dealer) supplies the vehicle/equipment to the leasing Company based on a Supply Agreement.
- Subject matter: it is the vehicle in most cases and the lessee will have the right to use of that asset or subject matter during the lease period.
- Liabilities of Party 1: the lessee will pay a series of rentals or instalments for the use of that asset.
- Role of Party 2: the lessor will recover a large part or all of the cost of the asset plus earn interest from the rentals paid by the lessee.
- Final Settlement: the lessee has the option to acquire ownership of the asset (e.g. paying the last rental, or by using the bargain option on the purchase price)¹

Finance leasing has similar financial characteristics to that of hire purchase agreements. But both have different accounting features and tax implications. There may be tax benefits for the lessee to lease an asset rather than purchasing it and this may be the motivation to obtain a fiancé lease. Earlier, the finance leasing and hire purchase were governed by the Consumer Credit Act No.29 of 1982. However, after the enactment of the Finance Leasing Act No.56 of 2000 (FLA 2000), the field of leasing is being governed by this Act.

The research is based on the problem that there is inadequacy of protection available to the lessees under the FLA 2000 and therefore there is no enthusiasm

¹www.wikipedia.org/definition-of-the-fiance-leasing

for self-employment by way of leasing a vehicle for low- and middle-income families. These results in the government losing revenue that can be otherwise earned by many vehicle leasing agreements. The pragmatic adequacy of the rights of the lessees in the FLA 2000 is examined. To recommend effective clauses to address the lessee’s rights in practical situations.



Objectives Include:

01. Identifying the concept of leasing
02. Examining the existing Laws in Sri Lanka focusing on the protection available to the lessees

Source: Financial System Stability Review in Sri Lanka 2019 and 2020

03. Identifying the gaps in the law in Sri Lanka
04. Making recommendations to the existing laws for better protection of the lessees.
05. Comparing with other jurisdictions on suitable laws to protect lessees.

2. Methodology

This research is conducted to evaluate the effectiveness of the protection provided to lessees in Sri Lanka with special reference to vehicle leasing and it was based on both quantitative and qualitative methods that include field research and web-based research. The data collection was based on the use of primary and secondary data collection methods.

The Present Prevailing Law of Finance Leasing and its Amendments

The main statute of FLA 2000 was subjected to two amendments namely the Finance Leasing (Amendment) Act No 24 of 2005 and Finance Leasing (Amendment) Act, No 33 of 2007. As per the provisions of the FLA 2000, every leasing company must be registered.² The rights and duties of the lessees, lessors, and suppliers have been provided under sections 11 to 31 of the Act.

It is clear that the Act generally tries to balance the interests of these three parties through its provisions. For example, section 11 of FLA 2000 highlights that the lessees have a right to the undisturbed and peaceful possession of the equipment provided to the lessees under a financial lease, and it shall be the duty of a lessors to ensure the protection; Section 16 of FLA 2000 provides that the lessees shall not terminate or rescind a supply agreement without the consent of the lessors; and Section 18 FLA 2000 provides that the supplier's obligation to lessees is to supply the equipment to the lessors in according to the Supply Agreement.

The principal Act of 2000 as well as the amendments in 2005 and 2007 has failed to protect the lessees.

Legal Issues Regarding Protection of the Lessees Under the FLA 2000

In Sri Lanka, most of the people consider the vehicle as their second big investment of their lifetime, the first place taken by none other than the housing property. Constantly increasing vehicle prices are the key contributor to developing the leasing sector during the last decades. Act embodies some grey areas as follows:

01. Problems that are related to recovering the possession of vehicle and Penal interest rates.

FLA 2000 has provided a mechanism for the absolute owner to repossess a vehicle in case of non-payment of the monthly installments by the lessee. Normally the person who seizes the vehicles in this regard is called the seizers. However, such

² "Subject to the provisions of section 44, from and after the appointed date, no person shall carry on finance leasing business, except under the authority of a certificate of registration issued on that behalf under the provisions of that Act."

Section 2 of the Finance Leasing Act No 56 of 2000

seizing of vehicles causes problems to the lessees who feel that they are unprotected.

In the case of *Muthuthanthrige Peatro Sunil Bernard Fernando for Indra Finance Company Ltd VS. Hewapathiranage Don Cletus Samaranayake*³ court granted, with reference to section 433(a) of the Criminal Procedure Code⁴, power to recover the possession even to unregistered leasing company of the vehicle due to non-payment of monthly installments if it is involved with a crime by the lessee.

1. Section 20 of FLA 2000 provides that where a lessee fails to comply with the terms and conditions of the finance lease, the lessor has the right to terminate the lease agreement and recover possession of the equipment provided.⁵
2. Section 21 of the FLA provides that lessor should send a prior notice to the lessees to remedy the failure before termination of the finance lease agreement⁶; while section 21(b) mentions that the lessor shall appoint a date not being a date less than seven days after the receipt of the notice for remedying the failure⁷.

As per the above-mentioned section 21 of the Act, the lessor gives only seven (7) days to the lessees to remedy the failure to pay installments according to the agreement. It was twenty-one days (21) notice before 2005 amendment and it has been reduced toll seven days by No 24 of the 2005 amendment to FLA 2000. The

³ CAIPHC/11/2017

⁴ (1) In the case of a vehicle let under a hire purchase or leasing agreement, the person registered as the absolute owner of such vehicle under the Motor Traffic Act (Chapter 203) shall be deemed to be the person entitled to possession of such vehicle for the purpose of this Chapter. Section 33(a) Criminal Procedure Code

⁵ “S.20(b) where a lessee fails to make accelerated payments as required under paragraph (a), terminate the finance lease and—

(I) recover possession of the equipment provided;” section 20 of Finance leasing Act no 56 of 2000

⁶ Section 21 of Finance Leasing Act no 56 of 2000

⁷ “Appointing a date, not being a date less than seven days after the receipt of the notice, for remedying the failure referred to in paragraph (a).”section 21 (b) of Finance Leasing Act no 56 of 2000

researcher humbly opines that seven days is not enough for the lessees to pay their installments with fines.

In the Hansard report of July 5 of 2005 relating to the Finance Leasing Amendment Bill when it was presented to the Parliament, Prof. G.L Peris mentioned that the reason for the amendment to section 21 is, “that during the period of 21 days the defaulting lessee was able to dismantle the vehicle or to conceal it so that lessor cannot really pursue the property to which he is entitled.”⁸ Accordingly, it is clear that amending the FLA 2000 in 2005 the Parliament considered the convenience of the lessors only and not lessees. It is disturbing to note that the Parliament did not even talk about how lessees will manage to pay their installments within seven days with the high penal interest.

Because of the delay of the accelerated payments, usually leasing companies charge high penal interests from lessees within the above-mentioned seven days. But FLA is silent regarding the number of penal interests⁹. Consequently, leasing companies are charging excessive monthly penal rates on delayed installment payments and if the lessee fails to remedy the failure in a specified short period of time lessor can repossess the vehicle under section 20 of the same Act. However, by way of penal interest the prevailing law puts the customers/lessees who are already finding it difficult to pay their monthly installments into an even more difficult situation.¹⁰ When the lessee must pay only one monthly installment and at a time the lessee is unable to pay it, leasing companies can repossess their vehicle without court permission. This is unfair to the lessees, in the opinion of the researcher.

Further, the FLA has given the power to the lessor to recover their possession due to default of the lease agreement “From the place where it is found”¹¹. Under that, they can repossess the leased vehicle at any place irrespective of the nature of the

⁸ Finance Leasing Amendment Bill, Hansard report of July 5 of 2005

⁹ Wickramasekara, Tharaka, “Leasing gannata pera sitha balanna,” *The Silumina*, July 08, 2019, <http://www.silumina.lk>

¹⁰ “Sri Lanka suspends leased vehicle seizures”, *economy Next*. August 7, 2015, <https://economynext.com/sr-lanka-suspends-leased-vehicle-seizures-2220>.

¹¹ “Recover possession of the equipment from the place where it is found, if possession could be obtained without resistance from the person in possession of the equipment or where it is not in the possession of any particular person, without resistance from any person” section 27(c) of the Finance Leasing Act No 56 of 2000

venue. So, it could be either a private or public place (ex: while driving the vehicle on the road). Hence it will adversely affect the psychological condition of the lessees when the seizers have forcibly repossessed the vehicle in the presence of third parties. For example, there was an incident that took place in Ampara in which the seizers seized leased a lorry while driving on the road forcibly by hitting and pushing the driver on to the road. This humiliation resulted in that lessee driver committing suicide.¹² Therefore, at present seizing vehicles over unpaid lease rentals by finance companies has become a controversial public issue due to the methods adopted in grabbing these vehicles in public places. Seizers practice inhuman activities while seizing vehicles from vehicle lessees and their passengers¹³. Further, although the FLA mentions to get the assistance of police officers in the seizing process in the case of breach of peace¹⁴, it is not practically used by leasing companies. This is because leasing company has to pay charges to police officer who comes to assist the seizers.¹⁵ Hence, it seems that the leasing companies have instructed their seizers to repossess their vehicles in a good or bad manner.

Apparently, there is a major critic about seizers in society, that “after seizing the vehicle, they will remove the original parts of the vehicle.¹⁶” The power to seize vehicle is given with the objective of safeguarding the financial interest of the lessor, but such objective is lost due to the dishonest employees of leasing company. Such dishonesty affects the lessee because the lessor company files a case against the lessee to recover the unpaid money, adding the cost of missing parts. On the other hand, if after a seizure, the lessee has paid the accelerated payments and regain the vehicle, they must face more difficulties because the FLA

¹² Amarabandu, Susantha, “Leasing warikaye ariyas eka jeevithayen gewuu mano”, *Divaina*, March 8, 2015, <http://www.divaina.com/2015/03/08/nimna04.html>

¹³ “Decent seizure of vehicles by finance companies over unpaid lease rentals”, *The Sunday Times Sri Lanka*, November 29, 2015, <http://www.sundaytimes.lk/151129/business-times/decent-seizure-of-vehicles-by-finance-companies-overunpaid-lease-rentals-172911.html>

¹⁴ “obtain the assistance of a police officer of that police station to prevent a breach of the peace in the exercise of that right” section 27(b) of Finance Leasing Act No 56 of 2000

¹⁵ The interview with LOLC Eheliyagoda Branch Seizing officer, 27th February 2021

¹⁶ Wickramasekara, Tharaka, “Leasing gannata pera sitha balanna”, *The Silumina*, July 08, 2019, <http://www.silumina.lk>

2000 is silent about any action by the lessee and section 19(1) provides that the lessor company is not liable to pay any losses to lessees.”¹⁷

02. Issues regarding transfer vehicle to the third party during the tenure of lease.

According to section 25(1) of the FLA 2000 the lessee cannot transfer his right of possession of the vehicle or equipment to a third party without the written consent of the lessor¹⁸. Therefore, when lessee cannot further pay their monthly payments, most of them try to transfer the vehicle to a third party by signing an agreement before lawyer (using power of attorney). But if third party default the payments lessee will be liable to the same and there are chances to add the name of the lessee as a defaulter in the records of Credit Information Bureau of Sri Lanka (CRB). The third party who defaulted will not be seen in such records. This will result in lessee being denied for any loans from any financial institutions in Sri Lanka thereafter. Further, subsequent to the lessee’s transfer of vehicle to the third party by power of attorney, if the third party engages in any criminal activity by using that leased vehicle, the lessee will be liable to it and not the third party. This is because FLA 2000 does not accept *de facto* transfer and the lessee cannot enter a *de jure* transfer of the ownership of the vehicle to the third party because the absolute ownership lies with lessor until all payments are settled.

In certain circumstances, though the first lessee transfers his ownership to a third party with the written consent of the lessor, leasing companies do not keep clear records about such transactions. Hence the first lessee must bear all liabilities irrespective of the transfer agreement.¹⁹

¹⁷“A lessor shall not incur any liability to the lessee for any loss suffered by the lessee in respect of the equipment provided under the finance lease, except to the extent of any loss arising out of the lessee’s reliance on the lessor’s skill and judgment on the selection of the equipment or in the lessor’s intervention in the selection of the supplier or in the specification of the equipment

¹⁸ “A lessee shall not, except with the written permission of the lessor and subject to any rights of third parties, transfer the right to the possession and use of an equipment under a finance lease to any other person”

.Section 25 of Finance Leasing Act No 56 of 2000

¹⁹ Hapugoda, Ananda, “Mulya samagam pumbana ape leasing neethiya,” *Dinamina*, December 4, 2017, <http://www.dinamina.lk>

03. Other problems related to the protection of the lessees.

Under FLA 2000 the only solution for disputes between its parties is litigation although it is protracted and costly due to lawyer's fees etc. If the Act allows other ADR methods such as arbitration for resolving their disputes it will be beneficial to both lessees and lessors²⁰. And it will help the lessees from incurring unnecessary costs.

Although the FLA 2000 limits the transfer of lessee's right to a third-party during leasing transaction and it did not mention that third party can't come in as a new lessor. This happens when the original leasing company becomes bankrupt and sells its rights to a third party who steps in to recover the possession. But the problem is that the lessee has been already contractually binding to the prior leasing company and not with the new one. Terms and conditions of leasing agreement vary from company to company. Therefore, in such a situation, it can be a disadvantage to lessees. But FLA 2000 is silent regarding that.

In addition, under FLA 2000 the lessor can charge for any losses and damage that take place to the vehicle, other than fair wear and tear²¹. The Act failed to define what fair wear and tears are. Therefore, there is a problem with the wear and tear concept in the transaction and it allows leasing companies to gain unjust enrichment from lessees by deciding fair wear and tears according to their advantage.

04. Debt Moratorium for six-month in pandemic period was turned into delusion.

Basically, Central Bank of Sri Lanka introduced six-month period as Debt Moratorium because people could not attend their workplace and could not carry out their usual activities. Hence, they could not pay the installments to leasing companies. As a relief, Circular No. 4 of 2020 and Circular No. 5 of 2020 introduced a concessionary period for paying installments. The real issue is that

²⁰ "In Sri Lanka, litigation to recover bad debts is a protracted and costly process." "Proposed Secured Loans Republic of the Maldives and Democratic Socialist Republic of Sri Lanka: South Asian SME Leasing Facility:" ADB, March, 2000, <https://www.adb.org/sites/default/files/project-document/66343/40935-regrrp.pdf>, 3.

²¹ Section 12 of the Finance Leasing Act No 56 of 2000

even if a concessionary period was granted by leasing companies according to the circulars on the written consent of lessees, the interest rate was calculated based on compound interest which was calculated including the concessionary period as well. This misleads the public. Hence, this debt moratorium was not a relief to the lessee.

We cannot ignore the murder of the Chairman of the Lanka Self-Employed Professional's National Three-Wheeler Federation during the crisis which was due to an argument between representatives of a Finance Leasing company relating to non-payment by a lessee who has leased a three-wheeler. This was during the pandemic period that was announced as a concessionary period and the argument was mainly focusing on the calculation of interest rate²². This chairman lost his life for raising his voice to protect the interest of the lessees. If there were adequate laws to protect the lessees an incident of this nature wouldn't have happened. This Debt Moratorium is the delusion in practical arena. To avoid these bad consequences, there should be proper legislation and a fixed interest rate which can be used in an emergency.

Comparative Jurisdiction

Certain other countries provide more protection to their leasing consumers through their statutes. In this regard the researcher has selected the USA and Australia. These two countries follow the UNIDROIT Convention on Financial Leasing, and this convention recognizes the following:

- a. Importance of removing certain legal impediments to international financial leasing of equipment.
- b. Balancing the interest between the different parties to the transaction
- c. Desirability of formulating certain uniform rules relating primary to civil and commercial law aspects of international financial leasing.
- d. Conscious of the fact that the rules of law governing the traditional contract of hire need to be adapted to the distinctive triangular relationship created by the financial leasing transaction.

²² <http://asianmirror.com/news/item/31465-national-three-wheeler-federation-president-sunil-jayawardena-assulted-to-death-leasing-mafia-behind-the-murder>

But Sri Lanka is not a party to this convention and did not make any attempt to implement UNITROID uniform law regarding finance leasing.

United States of America

Federal Regulation

Automobile leasing in the US is regulated by the Federal Consumer Leasing Act (FCLA) and Truth in Leasing Act (TLA) enacted in 1976. The stated purpose of Truth in Leasing Act are “to assure a meaningful disclosure of the terms of leases of personal property for personal, family or household purposes so as to enable the lessee to compare more readily the various terms available to him, limit balloon payment in consumer leasing, enable comparison of lease terms with credit terms where appropriate, and to assure meaningful and accurate disclosures of lease terms in advertisements.”²³ Both these statutes and the connected Regulations require extensive disclosure to the consumer regarding leasing transactions and regulate certain substantive terms of transactions.

The TLA provides for substantive penal charges and obtaining an adequate remedy.”

The Act provided that penal charges should be reasonable, it cannot impose unreasonable penal charges and if the company does so, the lessee can seek protection from the court.

Moreover, the TLA and Regulation M require the lessor to provide actual information regarding the transaction and that disclosure must be made clear and understandable. Clear and understandable disclosure is dependent on whether a disclosure is reasonably understandable to a layperson²⁴.

In addition, the same Regulation M requires a lessor to disclose:

²³ David A. Edelman, “Automobile Leasing –Problems and Solutions”, *Loyola Consumer Law Review*7,no.1 (1994): 16.

²⁴ David A. Edelman, “Automobile Leasing –Problems and Solutions”, *Loyola Consumer Law Review*7,no.1 (1994): 17.

- (1) “The amount or method of determining the amount of any penalty or other charges for delinquency, default, or late payments.”
- (2) “A statement of the conditions under which the lessee or lessor may terminate the lease prior to the end of the lease term and the amount or method of determining the amount of any penalty or other charges for early termination.”
- (3) “A statement identifying any express warranties or guarantees available to the lessee made by the lessor or manufacturer with respect to the leased property.”
- (4) “The total amount paid or payable by the lessee during the lease term for official fees, registration, certificate of title, license fees, or taxes.”
- (5) “[A] statement of reasonable standards for wear and use”
- (6) When and for how much the consumer can exercise a purchase option.

USA law recognized that early termination penalties are the most problematic area of finance leasing transactions. Therefore, the TLA provision requires that termination and default charges must be reasonable.²⁵

Therefore, at present more leases provide that early termination charges be calculated according to the “actuarial” or “economic accrual” method, also known as the “constant yield” method²⁶. But there is another method which is more favorable with lessors than lessees. It is known as the “Rule of 78 s,” also known as the “sum-of-the-digits method.” Generally, though there is no specific regulation to enforce the “constant yield” method, in the USA it has been enforced through judicial precedents.

In addition to that, several reforms are made in a recent New York statute to remedy many of the common abuses by lessors in leasing transactions²⁷. Among them, protection against unreasonable wear-and-tear charges at the end of the lease

²⁵ Ibid.,17

²⁶ David A. Edelman, “Automobile Leasing –Problems and Solutions”, *Loyola Consumer Law Review*7,no.1 (1994): 17

²⁷ Edelman, “Automobile Leasing –Problems and Solutions”, 18.

through an arbitration mechanism is important to the Sri Lankan context. Arbitration process is not recognized for leasing transactions in Sri Lanka which also has difficulties in calculating wear and tear

In covid-19 pandemic situation USA introduced some concessions to avoid the unnecessary sufferings of the parties dealing with leasing agreement. The concessions take various forms and include reduced rent and deferral of rent payment.

Australia

Consumer lease of Australia is regulated under the three main legislative instruments, namely:

- The National Consumer Credit Protection Act 2009 (NCCP Act)
- The National Consumer Credit Code (NCCC)
- National Consumer Credit Protection Regulations 2010 (NCCPR)

These instruments are administered by the Australian Securities and Investments Commission (ASIC)²⁸

Those legal instruments contemplated treating equally to both consumers of leasing and hire purchase transactions,²⁹ and the common elements include the lessee's rights, lessor's rights in relation to the repossess the leased goods⁸¹.

The Treasury is also considering the reduced fees in early termination and introducing further disclosure obligations to provide consumers with a better understanding of the terms and conditions of the lease agreement.

²⁸ Ali Paul et al., *Consumer Leases and Consumer Protection: Regulatory Arbitrage and Consumer harm*. 41 ABLR 240.(2013) :253

²⁹ "The Enhancement Act extends to consumer leases almost all the key consumer protection measures that already apply to credit contracts(including the hire purchase agreements and conditional sales" P;251 ⁸¹ Section 98 and 99 of Credit Code and The Consumer Credit Regulation Amendment (Enhancements) Act 2012 has retained these provisions.

Further section 29(1), 35(1) and 47(1) of the NCCP Act provides any benefits such as prohibiting to the lessor from entering into consumer lease unless it holds an Australian credit license; must have an internal dispute resolution procedure for resolving disputes with its customers; must be a member of an approved dispute resolution scheme (either the credit Ombudsman Service or the Financial Ombudsman Service) etc.

But in Sri Lanka, the only requirement is the authority of a certificate of registration under FLA.³⁰

In the case of early termination, the NCCP Act allows it by making a payment as determined in accordance with the NCCP regulations³¹. But in Sri Lanka, there are no specified early termination fees. It depends on the discretion of leasing companies.

The most important factor in Australia is restrictions on the lessor's right to repossess the leased goods. In Australia lessor can't repose the leased goods unless 30 days prior notices had been given to the lessee³². This requirement was intended to provide the lessee a reasonable opportunity to rectify a default. But in Sri Lanka, it is only 7 days.

In Covid-19 pandemic situation Australia introduced Amendments to Australia Accounting Standards and thereby the following concessions were recommended: Covid-19 Related Rent Concession.

- a. 6 months of lease payments during the Covid-19 period are deferred.
- b. The lease term is extended by six months.
- c. The lease payments during the extended six-month period are equal to the lease payments deferred during the Covid-19 pandemic.

³⁰ Section 2 of the Finance Leasing Act No 56 of 2000

³¹ Ali Paul et al., Consumer Leases and Consumer Protection: Regulatory Arbitrage and Consumer harm. 41 ABLR 240.(2013) :253

³² Section 178 of Credit Code and The Consumer Credit Regulation Amendment (Enhancements) Act 2012 has retained this provision.

3. Conclusion and Recommendations

3.1 Conclusion

Finance leasing is attractive to consumers because it enables consumers who are having low income to acquire possession of goods immediately. On the other hand, it also attracts lessors to allow generating profits through leased goods. Therefore, at present finance leasing plays a major role in every economy. Sri Lanka is still developing country and most of the people belonging to the middle class and low class in the economy, hence they cannot invest money to buy a vehicle at once. However, the primary data reveal that leasing transactions are not always fair and reasonable. Sri Lankan Act has some lacunas that are adversely affecting the lessees of the leasing transaction.

3.2 Recommendations

1. The period for the terminating of the agreement by the lessor should be extended like another jurisdiction. i.e. Australia lessor can't repose the leased goods unless 30 days prior notices had been given to the lessee.³³
2. It is better if unitary fine interest rates are introduced for the termination of the lease agreement in Sri Lanka i.e. Australia stipulated that specified fees and charges relating to consumer leases to be prohibited by regulation.³⁴ And USA, at present more leases provides that early termination charges be calculated according to the "actuarial" or "economic accrual" method, also known as the "constant yield" method.³⁵
3. According to section 19(1) of the FLA, the lessor shall not be liable for losses in relation to equipment. It should be amended that the lessor shall be liable for

³³ Section 178 of Credit Code and The Consumer Credit Regulation Amendment (Enhancements) Act 2012 has retained this provision.

³⁴ Section 175 A of the Australian Credit Code.

³⁵ David A. Edelman , "Automobile Leasing –Problems and Solutions", *Loyola Consumer Law Review* 7,no.1 (1994): 17.

the consequences of losses if those are caused by the lessor or by force majeure, similar to Australia.

4. Under the Consumer Credit Act 1982 that is applicable to hire purchase transactions, if the hirer pays 75% of his loan, Lessor can't seize the vehicle without a court order.³⁶ A similar provision should be introduced under FLA 2000.
5. Section 25(1) of the FLA provides that lessee shall not transfer his rights to a third party without written consent of the lessor. Obtaining the written consent of the lessor is a costly and time-consuming process. Therefore, most of the lessees used to transfer their rights by signing before an attorney at law. However, FLA 2000 does not grant legal validity to such transfer. Therefore, this section should be flexible enough to facilitate transferring of their rights to a third party.
6. It is recommended to introduce an Ombudsman in relation to the leasing disputes. This is because of speedy resolution to disputes in which the affected party is from the low-income sector.
7. Sri Lanka only allows litigation. But it is better to allow alternative dispute resolution methods i.e. Arbitration to resolve the disputes because the court process is costly and time-consuming.
8. It is recommended to define 'reasonable wear and tear' in the Act. Otherwise, it will allow unjust enrichment of companies.
9. In the event of the re-selling of the leased vehicle, the company must re-sell only for the best price and whatever excess should be paid to the lessee.

The Sri Lankan vehicle leasing process will no doubt be streamlined if this Act is amended by recognizing the suggestions presented through this research paper and the practical problems existing in the country.

³⁶ Section 20 of the Consumer Credit Act No 29 of 1982

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An Investigation of the Impact of Psychological Factors on Investment Intention among Retail Investors in Colombo Stock Exchange in Sri Lanka

Gamage K.G.C.D.¹

*¹NSBM Green University, Sri Lanka.
daupadee.g@nsbm.ac.lk¹*

Abstract

In the recent past, there has been an increase in retail investors' participation in the stock market. However, whether they engage in stock market investments with an understanding of the investment objectives is questionable. In fact, most of them fail to understand their investment objective. Within this backdrop, this research study aims to understand the impact of attitude, subjective norms & financial self-efficacy on the investment intention of retail investors in the Colombo stock exchange in Sri Lanka. Data was collected from 200 individual investors in the Colombo stock exchange by distributing a self-administrated questionnaire. The research findings reveal that attitude and subjective norms have a significant positive impact on Investment Intention and financial self-efficacy does not have a significant impact on Investment Intention. Further, the study also provides valuable managerial implications regarding psychological factors that impact the investment intention of retail investors which investment advisors need to take into consideration in providing investment advice to retail investors and in crafting awareness programs about investments in stock markets.

Keywords: Stock Market Participation, Investment Intention, Subjective Norms, Attitudes, Financial Self-Efficacy

1. Introduction

In the recent past, there has been an increase in retail investors' participation in the stock market because of the high level of liquidity in financial market instruments and individuals earn unprecedented profits from the stock market (Lim et al., 2013). Further prior studies revealed that investors require a clear-thinking pattern and proper investment knowledge of the investing process because it helps investors to get the correct investment decisions & manage their investment risk (Akhtar and Das, 2019; Charness and Gneezy, 2010).

However, Akhtar and Das, (2019) observed that there was 32 percent of retail investors failed to understand their investment objectives and another 30 percent of the retail investors had a conflict about their investment decision due to their financial advisors' suggestions. Further, they mentioned that another 30 percent of retail investors had the confidence to get a correct investment decision, but in the real world, they could not achieve their investment goal. Furthermore, retail investors doubt whether they can earn what they expect by investing in the stock market (Hoffmann and Post, 2017). Therefore, it is important to study factors affecting investment intention among retail investors in a stock market.

Further, similar studies were conducted on other stock exchanges such as the Nairobi securities exchange, and the Indian stock exchanges (Akhtar and Das, 2019; Njuguna, 2020). However, limited research studies were conducted in the Colombo stock exchange to understand the investment intention of retail investors in Sri Lanka. The Colombo stock exchange (CSE) is the one of best-performing stock markets in the world with a high amount of trading happening daily (Somathilake, 2020). Therefore, the present research study focused on Sri Lankan Context.

Moreover, most of the scholars used the theory of planned behavior (TBP) by substituting financial self-efficacy (FSE) instead of perceived behavioral control to predict investment intention among retail investors (Akhtar and Das, 2019). The present research study uses the theory of planned behavior by substituting financial self-efficacy (FSE) instead of perceived behavioral control to predict investment intention among retail investors in the Colombo stock exchange in Sri Lanka. Therefore, it aims to understand the impact of attitude, subjective norms & financial self-efficacy on the investment intention of retail investors in the Colombo stock exchange.

In this milieu, the current research study reveals how the theory of planned behavior impact to investment intention of retail investors. Therefore, this research study will provide proper guidelines for retail investors to understand their investment objectives and how to get the correct investment decision without conflict. Also, these findings will be vital for Stockbroker companies & investment advisors to use these facts to properly guide retail investors toward a correct investment decision. According to the above facts, retail investors can use this research article to identify how psychological factors of attitudes, subjective norms & financial self-efficacy influence the individual investors' investment intention. Then they can earn higher economic benefits & get good financial knowledge using that research study.

2. Literature Review

2.1 Stock Market Participation

Somathilake (2020) identified the stock market as the place where stocks (securities) are exchanged. Further, she examined that there were more investment products available such as stocks and bonds & in the stock market. Akbar et al., (2016), pointed out that the purpose of the stock market is to collect money from individual investors and institutional investors & then give it to businesses and industries. Stock market participation measures whether investors invest in the stock market (Sivaramakrishnan et al.,2017). Participation in the stock market is a significant economic result. Lack of participation in the stock market can result in significant welfare losses since exposure to equities and, consequently, the equity premium may play a significant role in determining an individual's long-term return (Cocco et al., 2005).

Growth has been observed in individuals' participation in the stock market in recent years (Lim et al.,2013; Akhtar & Das, 2019; Somathilake ,2020). Moreover, they pointed out that the high level of liquidity in stock market instruments, individuals' ability to gain an unprecedented profit, and the higher possibility of diversification are the reasons for the growth of individuals' participation in the stock market in recent years. Akhtar and Das, (2019) and Charness & Gneezy, (2010) mentioned that individual investors had to get rational investment decisions when investing in the stock market. Further, they analyzed individual investors

require a clear-thinking pattern and proper investment knowledge to get the correct decision.

2.2 Investment Intention

“Intentions are assumed to capture the motivational factors that influence a behaviour and to indicate how hard people are willing to try or how much effort they would exert to perform the behaviour” (Ajzen, 1991, p. 181). According to the Theory of Planned Behaviour (Ajzen, 1991), intentions precede behaviour, the stronger the intention to engage in a behaviour, the more likely should be performance. According to Sashikala and Chitramani, (2018), investment intention can be defined as the reasons for investors to invest. Further, they examined, generally, there are two kinds of investment intentions namely short-term investment intention and long-term investment intention. Investors who have short-term investment intentions look at the quick returns in short time periods whereas investors with long-term investment intentions hold their investment for a longer period & they expect a stable return. Therefore, most of the prior scholars mentioned it is important to study factors affecting investment intention among individual investors in stock exchanges (Akhtar and Das, 2019; Njuguna, n.d.; Sivaramakrishnan et al., 2017). Further, this prior research investigated investment intention using the theory of planned behavior. East, (1993) investigated the application for shares in British industries. Further, he used the theory of planned behavior to determine the intention. Further, Akhtar and Das, (2019) examined factors affecting investment intention among retail investors in the Indian stock markets using the theory of planned behavior. They mentioned there was a minimum number of studies that used the theory of planned behavior to predict the investment intention of retail investors in stock markets.

2.3 Impact of Behavioral Factors on Stock Market Participation

2.3.1 Personality Traits

Nauman Sadiq and Ased Azad Khan, (2019) examined the relationship between personality traits and investment intention. Further, they proposed different prior studies proposed different personality traits. In addition to that, they examined mostly used the big five-factor model of personality traits developed by Allport and Odbert (1936). Further, Dolan et al., (2012) investigated personality traits

consisting with the characteristic of cognitive, motivational & emotional. Most of the prior research examined these characteristics used by individual investors to get several decisions (Dolan et al., 2012; Nauman Sadiq and Ased Azad Khan, 2019).

2.3.2 Attitude

Ajzen (1991), defined attitude as the degree to which an individual has a favorable or unfavorable valuation from the performing specific behavior. Further, Ajzen, (2006) pointed out there were two dimensions of attitude. The first dimension is an attitude as an instrument and that explains whether an action is important, harmful, or valuable. The second dimension is attitude as a behavior is pleasant or enjoyable. Further, O'Connor & White, (2010) investigated that if a person has a favorable attitude toward a certain behavior, there may be a high probability to build up a positive intention to undertake that behavior. Further, Ajzen, (1991) and Roy et al., (2017) pointed out that most of the prior research used attitude as a first determinant to test the behavioral intention in the theory of planned behavior in many types of research fields such as psychology, marketing, health science, investment & finance. Therefore, most of the prior research studies examined attitude has a positive impact on an individual's behavioral intention. Ajzen (1991) mentioned that concepts of social attitude & personality traits played a major role when predicting the individual's intention. Further, he pointed out attitude as a component that captures the individual's behavioral intention. In addition to that, he defined attitude as the degree to which an individual has a favorable or unfavorable valuation from the performing specific behavior.

Gopi and Ramayah (2007) used attitude to capture the intention towards trading online in the stock market in Malaysia. Further, he examined attitude in two ways. Firstly, they mention attitude is a component that guides the future behavior of an individual. Secondly, they mention attitude is a cause of intention that determines a certain behavior. Further, they examined prior scholars who study the theory of reasoned action (Fishbein and Ajzen, 1975) and mentioned attitude can influence individuals feeling in a positive or negative way when performing a specific behavior. Further, Gopi and Ramayah (2007) mentioned that Ajzen & Fishbein, (2000) identified the most recent definition of attitude as the level of favorableness and un-favorableness of a particular person's emotions toward a psychological object. Citra Sondari and Sudarsono (2015) conducted a research study to identify

predicted intention to invest in Indonesia & they used attitude to capture the intention to invest. Further, they analyzed attitudes as positive or negative feelings of an individual toward a certain psychological object. Lortie and Castogiovanni (2015), examined a research study on entrepreneurship & future direction of entrepreneurship & they used attitude to capture the entrepreneurship intention.

Further, defined attitude as the degree to which an individual has a positive or negative appraisal of a particular behavior. Further, they investigated whether individuals would construct their subsequent intentions based on how positively evaluate their behaviors. In addition to that, they examined the attitude construct founded on Fishbein and Ajzen's (1975). Sivaramakrishnan et al., (2017) examined factors affecting the consumer's investment decisions in the stock market. Further, they used attitude to identify the stock market participation. Further, they investigated attitude is a function of an individual's major behavioral beliefs which is one of the characteristics of the behavior. Further, Roy et al., (2017) conducted a research study to identify entrepreneurial intention among science and technology graduates & they used attitudes as one component to predict entrepreneurial intention. Further, they pointed out that most of the prior researchers such as Ajzen, (1991) used attitude as a first component to test the theory of planned behavior in a wide range of social science topics such as pure psychology, family planning behavior, consumer behavior, entrepreneurial intention &, etc.

Akhtar and Das, (2019) examined factors affecting investment intention among retail investors in the Indian stock markets and used attitudes as one component to predict investment intention among retail investors. Further, they defined attitude as the degree to which an individual has a favorable or unfavorable valuation from the performing specific behavior & they pointed out there were two dimensions in attitude. The first dimension is an attitude as an instrument and that explains whether an action is important, harmful, or valuable. The second dimension is attitude as behavior as pleasant or enjoyable. In addition to that, they identified If a person has a favorable attitude toward a certain behavior, there may be a high probability to build up a positive intention to undertake that behavior.

2.3.3 Subjective Norms

According to Ajzen (1991), subjective norms define social pressures which are pressurized by an individual to engage in a particular behavior. Further, Fishbein

and Ajzen, (1975) examined, subjective norms that were developed from the theory of reasoned action. Further, they examined subjective norms dealing with social pressures. Therefore, Venkatesh and Davis, (2000) pointed out that an individual can develop the intention to carry out a specific behavior under social pressure, whether the individual wants to undertake that behavior. Sivaramakrishnan et al., (2017) pointed out that pressure can be brought explicitly through verbal or actions.

Further, Lortie and Castogiovanni, (2015) and Roy et al., (2017) identified individuals' close friends, significant others, relatives, and family members as the factors that can pressurize an individual towards a particular behavior. Armitage and Conner, (2001) pointed out that subjective norms are a major function of normative beliefs. Further, most of the prior researchers pointed out they used subjective norms as a second determinant to test the behavioral intention in the theory of planned behavior (Ajzen, 1991; Akhtar and Das, 2019; Citra Sondari and Sudarsono, 2015; Krueger and Carsrud, 1993; Roy et al., 2017; Sivaramakrishnan et al., 2017). Gopi and Ramayah, (2007) examined subjective norms that were developed based on the theory of reasoned action.

Further, they examined subjective norms dealing with social pressures on individuals' behavioral intentions. In addition to that, the theory of reasoned action mentioned subjective norms are directly affected by behavioral intention. Further, they examined the rationale of this as, under social pressure, an individual engages in a particular behavior or does not engage with that behavior. According to Gopi and Ramayah, (2007), there were mixed results in subjective norms toward investment intention. Further, some prior research studies indicate subjective norms do not impact individual intention (Davis et al., 1989.; K Chau and Jen-Hwa Hu, 2001; Lewis and Miall, 2003). Moreover, some prior research studies indicate subjective norms impact individual intention (Ma'ruf et al., 2005; Taylor and Todd, 1995, n.d.; Teo and Pok, 2003; Venkatesh & Davis, 2000).

Citra Sondari and Sudarsono (2015) defined subjective norms as an individual perception of the likelihood that a group of other people will agree with or disagree with a specific action that they want to take. Lortie and Castogiovanni (2015) examined a research study on entrepreneurship & future direction of entrepreneurship & they used subjective norms as a second component to capture the entrepreneurship intention. Further, they defined subjective norms as define as social pressures which are pressurized a particular person to engage or not engage in a particular behavior. Further, they identified individuals' close friends,

significant others, relatives, and family members as the factors that can pressurize an individual towards a particular behavior. According to Akhtar and Das, (2019), subjective norms define social pressures which are pressurized an individual to engage in a particular behavior. Further, they pointed out, individuals are willing to participate in the stock market if their close people such as friends, significant others, relatives, and family members advise them.

2.3.4 Financial Self-Efficacy

Ajzen, (1991), examined that the possibility of behavioral success must for some extent be determined by the opportunities and resources available for a person. However, the perception of behavioral control and how it affects intentions and behaviors is of greater psychological interest than actual control. Further, Ajzen, (1991), examined perceived behavior control as a major component in the theory of planned behavior. Because the difference between the theory of planned behavior and the theory of reasoned action is perceived behavior control. Gopi and Ramayah, (2007) examined perceived behavior control representing the control belief in the theory of planned behavior. Further, they examined perceived behavior control that was founded to avoid the limitation in the theory of reasoned action. Therefore, they defined perceived behavior control as the possibility of an individual's beliefs about how they can carry out a specific behavior. Further, perceived behavior control is based on prior experience & second-hand information obtained from family members, relations, friends &, etc. & these factors controlled the level of an individual's beliefs (Ajzen, 1991; Gopi and Ramayah, 2007; Lortie and Castogiovanni, 2015). Further, Ajzen, (1991) and Bandura, (1977) examined that, the current view of perceived behavioral control is aggregable with self-efficacy. Therefore, Bandura (1977), defined self-efficacy as a particular person's belief about his or her capability to carry out actions in order to achieve a specific goal.

Further, most of the prior research found self-efficacy is one of the most effective indicators to perform a specific behavior (Roy et al., 2017a; Stajkovic and Luthans, 1998). According to Libby and Fishburn (1977), making a decision to invest in a financial market is riskier. Because there was uncertainty in the decision-making process. Therefore, most prior scholars used perceived risk to measure that uncertainty (Cho and Lee, 2006). Moreover, Grable and Lytton (2000) investigated perceived risk based on the two components namely, self-efficacy & wealth

position. Therefore, prior research identified if a particular person has a higher level of self-efficacy, he or she can predict accurate decisions based on limited & unclear information (Akhtar and Das, 2019; Cho and Lee, 2006). Further, Akhtar and Das, (2019) and Forbes and Kara, (2010), identified investment behavior, portfolio choices, financial knowledge, gender differences & saving strategies are factors that can influence self-efficacy.

Moreover, the critical part of this literature on the theory of planned behavior is whether perceived behavior control can be substituted with self-efficacy. Further, Akhtar and Das, (2019) mentioned the concept of substituting self-efficacy instead of perceiving behavior control was mostly discussed in the prior research areas of entrepreneurial intention (Lortie and Castogiovanni, 2015; Roy et al., 2017). Therefore, Armitage and Conner, (2001) mentioned that self-efficacy is well established & it represents a better correlation with the intention than perceived behavior control. Ajzen, (1991, p. 7) stated that “the theory of planned behavior places the construct of self-efficacy belief or perceived behavioral control within a more general framework.”

2.4 Theoretical Background

The theory of planned behavior (TPB) is a psychological theory that explains motivational & informational influences on human behavior. The theory of planned behavior was developed by Icek Ajzen based on the theory of reasoned action. Further, the theory of planned behavior has three main components namely, attitude, subjective norms & perceived control behavior, and a combination of these three components to capture the individual’s behavioral intention. The theory of planned behavior was used to predict behavior & intention in many types of prior research fields such as psychology, marketing, health science, investment & finance (Citra Sondari and Sudarsono, 2015; Lortie and Castogiovanni, 2015). Therefore, these prior research studies provided the basis for the applicability of the theory of planned behavior to capture the individual’s behavioral intention.

Prior research studies used the theory of planned behavior to reveal investment intention and pointed out a minimum number of studies that used the theory of planned behavior to predict the investment intention of retail investors in stock markets (Akhtar and Das, 2019; East, 1993).

3. Hypotheses and the Conceptual Framework

3.1 Impact of Attitude on Investment Intention

Attitude means the degree to which an individual has a favorable or unfavorable valuation from the performing specific behavior. There were two dimensions of attitude. The first dimension is an attitude as an instrument and that explains whether an action is important, harmful, or valuable. The second dimension is an attitude as behavior as pleasant or enjoyable. If a person has a favorable attitude toward a certain behavior, there may be a high probability of building up a positive intention to undertake that behavior (O'Connor and White, 2010). Further, most of the prior studies used attitude as a first determinant to test the behavioral intention in the theory of planned behavior in many types of research fields such as psychology, marketing, health science, investment & finance. Therefore, most of the prior research studies examined attitude has a positive impact on an individual's behavioral intention (Ajzen, 1991; Roy et al., 2017).

Ajzen(1991), mentioned that concepts of social attitude & personality traits were playing a major role when predicting the individual's intention and pointed out attitude as a component that captures the individual's behavioral intention. Further, Gopi and Ramayah (2007), used attitude to capture the intention towards trade online in the stock market in Malaysia and they revealed attitude can influence individuals feeling positively or negatively when performing a specific behavior. Citra Sondari and Sudarsono (2015), conducted a research study to identify predicted intention to invest in Indonesia & they used attitude to capture the intention to invest. Further, they analyzed attitudes as positive or negative feelings of an individual toward a certain psychological object. Lortie and Castogiovanni (2015), examined a research study on entrepreneurship & future direction of entrepreneurship & they used attitude to capture the entrepreneurship intention and they examined whether attitude can influence individuals feeling positively or negatively when performing a specific behavior. Further, Roy et al., (2017) conducted a research study to identify entrepreneurial intention among science and technology graduates & they used attitudes as one component to predict entrepreneurial intention. Akhtar and Das, (2019) examined factors affecting investment intention among retail investors in the Indian stock markets and used attitudes as one component to predict investment intention among retail investors. Further, they defined attitude as the degree to which an individual has a favorable

or unfavorable valuation from the performing specific behavior. In addition to that, they identified If a person has a favorable attitude toward a certain behavior, there may be a high probability to build up a positive intention to undertake that behavior. Therefore, most of the prior research studies revealed attitude has a positive impact on an individual's behavioral intention(Akhtar and Das, 2019; Citra Sondari and Sudarsono, 2015; East, 1993; Gopi and Ramayah, 2007). Therefore, based on this prior evidence, the following hypothesis is proposed as the first hypothesis in this research study.

H₁ = Attitude impacts investment intention

3.2 Impact of Subjective Norms on Investment Intention

Subjective norms define as social pressures which are pressurized an individual to engage in a particular behavior(Ajzen, 1991). Most of the prior studies mentioned that an individual can develop the intention to carry out a specific behavior under social pressure, whether the individual wants to undertake that behavior and they pointed out that pressure can be brought explicitly through verbal or actions(Sivaramakrishnan et al., 2017; Venkatesh and Davis, 2000). Further, prior studies mentioned family members, relatives, close friends, and significant others of an individual are the factors that can pressurize an individual towards a particular behavior(Lortie and Castogiovanni, 2015; Roy et al., 2017).

Most of the prior research used subjective norms as a second determinant to test behavioral intention in the theory of planned behavior(Akhtar and Das, 2019; Krueger and Carsrud, 1993). Further, Gopi and Ramayah, (2007), pointed out there were mixed results in subjective norms toward investment intention. Further, some prior research studies indicate subjective norms do not impact individual intention(Davis et al., 1989.; K Chau and Jen-Hwa Hu, 2001; Lewis and Miall, 2003) and some prior research studies revealed subjective norms impact on individual intention(Ma'ruf et al., 2005; Teo and Pok, 2003; Venkatesh and Davis, 2000). Therefore, based on this prior evidence, the following hypothesis is proposed as the second hypothesis in this research study.

H₂ = Subjective Norms impact investment intention

3.3 Impact of Financial Self-Efficacy on Investment Intention

Perceived behavior control defines as the possibility of an individual's beliefs about how they can carry out a specific behavior. Further, perceived behavior control is based on prior experience & second-hand information obtained from family members, relations, friends &, etc. & these factors controlled the level of an individual's beliefs(Ajzen, 1991; Gopi and Ramayah, 2007; Lortie and Castogiovanni, 2015). Most of the prior studies examined that, the current view of perceived behavioral control is aggregable with self-efficacy. Further, they defined self-efficacy as a particular person's belief about his or her capability to carry out actions in order to achieve a specific goal(Bandura, 1977; Roy et al., 2017; Stajkovic and Luthans, 1998). Moreover, prior research studies mention that investment behavior, portfolio choices, financial knowledge, gender differences & saving strategies are the factors that can influence self-efficacy.

Moreover, the critical part of this literature is whether perceived behavior control can be substituted with self-efficacy. The concept of substituting self-efficacy instead of perceived behavior control was mostly discussed in the prior research areas of entrepreneurial intention(Akhtar and Das, 2019; Lortie and Castogiovanni, 2015). Further, Armitage and Conner, (2001) mentioned that self-efficacy is well established & it represents a better correlation with the intention than perceived behavior control. Therefore, based on this prior evidence, the following hypothesis is proposed as the third hypothesis in this research study.

H₃ = Financial Self-Efficacy impacts investment intention

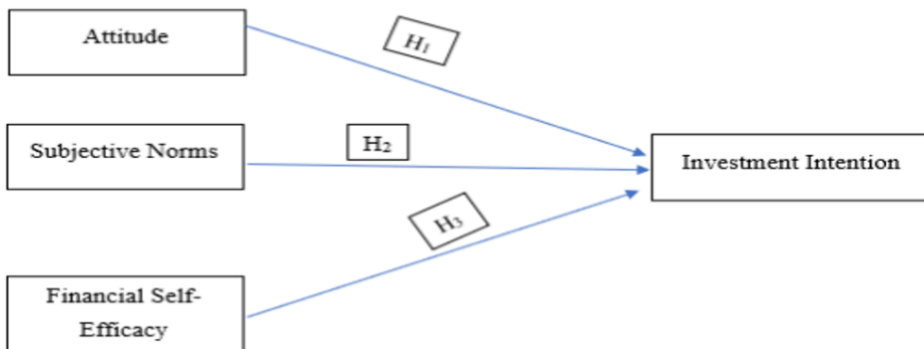


Figure 1: Conceptual Framework
(Source: Author)

4. Methodology

4.1 Participants and Procedure

The unit of analysis for the study was an individual aged between 20 to 30 who has invested in the Colombo Stock Exchange as the stock market participation records 94% from the age category below 30 years as per the 2021 annual report of the Colombo Stock Exchange and the purposive sampling strategy was used in collecting the data. This research study used a survey strategy to collect primary data from the participants by distributing a self-administrated questionnaire. Attitude, subjective norms, and investment intention were measured using a 3-item scale each, validated by Akhtar and Das, (2019). Financial self-efficacy was measured using 6 item scale, validated by Akhtar and Das, (2019). All the scales satisfied the reliability requirements with a Cronbach alpha above 0.7.

After cleaning the data and removing missing values 196 responses proceeded to the analysis. Thereafter 185 responses that met the relevant criterion in terms of age and stock market participation proceeded to the study. Further, 54.6% of the participants who responded to this questionnaire were female and 45.4% were male. Moreover, most of the participants who filled out this questionnaire were between 20 – 24 years & which represents 87% of the total 185 valid responses. The rest of the 13% of participants were aged between 25 – 30 years.

Table 1: Measurement Scale of the Research Study

Variable	Indicator	Measurement	Cronbach's Alpha	Source
Attitude	A1. Investment in stock market is a good idea	(Five-point Likert scale)	0.787	(Akhtar & Das, 2019)
	A2. Investing in stock market is a wise choice	Strongly Disagree = 1 Disagree = 2		
	A3. I like the idea to invest in stock market	Neutral = 3 Agree = 4 Strongly Agree = 5		
Subjective Norms	SN1. My colleagues and friends are	(Five-point Likert scale)	0.785	(Akhtar & Das, 2019)

	investing in stock market	Strongly Disagree = 1		
	SN2. Those have important influence on me think that I should invest in stock market	Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5		
	SN3. People whose opinion I value would prefer that I should invest in stock market			
Financial Self Efficacy	FSE1. It is not hard to stick to my spending plan when unexpected expenses arise	(Five-point Likert scale)	0.748	(Akhtar & Das, 2019)
	FSE2. It is not challenging to make progress toward my financial goals	Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5		
	FSE3. When unexpected expenses occur, I usually have to use credit			
	FSE4. When faced with a financial challenge, I do not find it hard to figure out a solution			
	FSE5. I do not have lack confidence in my ability to manage my finances			
	FSE6. I do not have to worry about running out of money in retirement.			
Investment Intention	II1. I will invest in stock market frequently	(Five-point Likert scale)	0.750	(Akhtar & Das, 2019)

II2.I will encourage my friend and family to invest in stock market	Strongly Disagree = 1 Disagree = 2 Neutral = 3
II3. I will invest in stock market in near future	Agree = 4 Strongly Agree = 5

5. Data Analysis and Results

The data were first screened using SPSS, and then AMOS software was used for confirmatory factor analysis and structural equation modeling. The analysis met the necessary goodness-of-fit criteria. It was evident through the analysis that attitude and subjective norms have a significant positive relationship with the investment intention of individuals and there is no statistically significant relationship between financial self-efficacy and investment intention.

5.1 Measurement Model

Tables 2 and 3 report validity and reliability measures, and the relevant statistics were above 0.5 and 0.7 cutoff points. Additionally, convergent validity is established by factor loadings above 0.5 (Hair et al., 2014). Since the square root of the average variance extraction estimate of each scale was greater than the correlation of the corresponding construct to all other constructs, discriminant validity was also proven (Fornell & Larcker, 1981). Therefore, the aforementioned findings demonstrate the accuracy and validity of the data.

Table 2: Reliability and Validity Measures

Variables	No. of items remained	Standard factor loadings (Min-Max)	AVE Estimates	Cronbach's Alpha
Investment Intention	3	0.682 - 0.736	0.709	0.749
Attitude	3	0.701- 0.835	0.748	0.792
Subjective Norms	3	0.701 - 0.778	0.749	0.709

Financial Self- efficacy	6	0.505 - 0.658	0.605	0.761
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Table 3: Discriminant Validity (AVE vs SMC)

	II	A	SN	FSE
II	0.7097	0.6257	0.4956	0.1303
A	0.6257	0.7483	0.4956	0.1772
SN	0.4956	0.4956	0.7487	0.3564
FSE	0.1303	0.1772	0.3564	0.5912

*Notes: (1) II- Investment Intention ;(2) A- Attitude; (3) SN-Subjective Norms; (4) FSE-
 Financial Self-Efficacy
 (Source: Survey Data)*

5.2 Structural Model

The structural models seek to investigate findings about causal connections and forecasts from the data sample of the study. The tests on multivariate assumptions were first performed, and they confirmed that the sample data were suitable for additional multivariate analysis. The structural model was constructed to test the direct determinants of investment intention. Three hypotheses were advanced in order to test the three direct relationships: Attitude impacts investment intention (H1), Subjective norms impact investment intention (H2), and Financial self-efficacy impacts investment intention (H3). In order to validate the direct relationship described above, a structural model was created. With a 95% level of confidence, the impacts of H1 and H2 were accepted with a statistically significant positive relationship and H3 was not supported for a statistically significant relationship.

Table 4: Results of the direct path hypotheses tested

Path	Hypothesis	Beta Value	P-value	Decision
A → II	H1: Attitude impacts investment intention	0.652	0.000	Supported

SN → II	H2: Subjective Norms impact investment intention	0.422	0.000	Supported
FSE → II	H3: Financial Self-Efficacy impacts investment intention	-0.015	0.849	Not Supported

(Source: Survey Data)

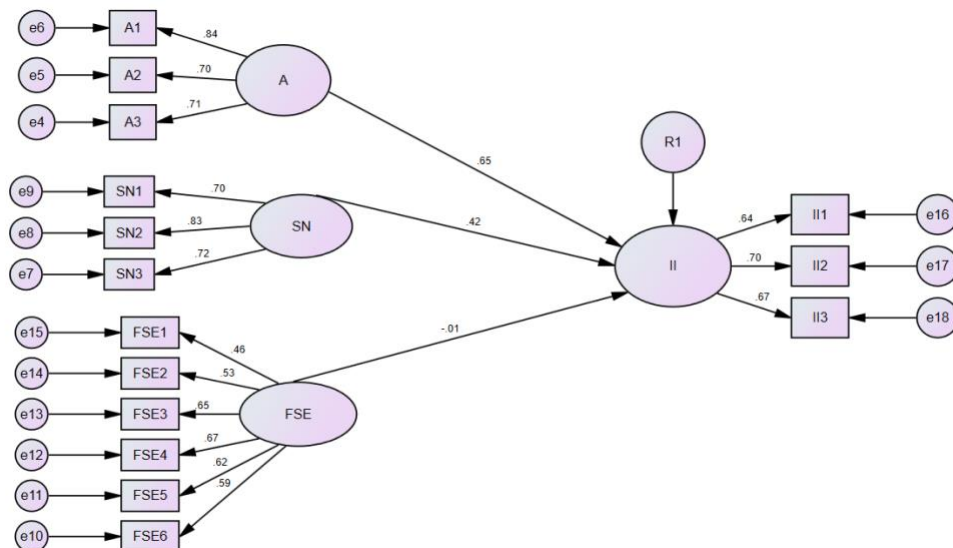


Figure 2: Structural Model

(Source: Survey Data)

6. Discussion

The current study found that attitude has a significant positive impact on investment intention ($B=0.652^{***}$) and it has the most significant impact on investment intention which indicates that Sri Lankan investors are more concerned about their attitudes while deciding whether to invest in stock markets. These findings are in line with the previous studies which were similar to the current study. (Akhtar and Das, 2019; Citra Sondari and Sudarsono, 2015; East, 1993; Gopi and Ramayah, 2007).

Moreover, the current study found that subjective norms have a significant positive impact on Investment intention ($B= 0.422^{***}$) which is in line with the previous studies indicating that social interaction and social pressure are prime influencers

of stock market participation and trading behavior (Hong et al.,2004; Shanmugham & Ramya, 2012). Therefore, the findings of the current study can be used to prove the prior research finding of subjective norms' impact on individual intention that the subjective norms of retail investors can influence their investment intention positively. That indicates family members, close friends and significant others of a particular person can have a significant impact on investment intention (Akhtar& Das,2019).

Further, the current study found that financial self-efficacy does not have a statistically significant impact on investment intention although most of the prior studies which were similar to the current studies found out financial self-efficacy has a significant impact on investment intention(Akhtar and Das, 2019).

7. Managerial Implications

Prior research studies demonstrated that most retail investors failed to understand their investment objectives and investors had a conflict about their investment decision. Because most retail investors had investment decisions depending on someone's suggestions. In the real world, most high-net-worth individuals (HNWI) try to manipulate shares in the stock market & some retail investors are caught in that manipulation & getting losses. Further, the current study revealed family members, relatives, close friends, and significant other retail investors can influence their investment intention. Therefore, the current study provides proper investment knowledge about the investment intention of individual investors and this knowledge provides proper guidelines for retail investors to understand their investment objectives and get the correct investment decision.

Further, investment advisors can use this research article to identify how these phycological factors of attitudes, subjective norms & financial self-efficacy influence individual investors' investment intention. Moreover, they can provide proper guidance & suggestions to their investors by having proper knowledge of individual investors' investment intentions. Further, stockbroker firms can use this research article to identify what are the factors affecting investment intention and these firms can identify these retail investors' investment objectives. Therefore, stockbroker firms can conduct a webinar for retail investors to provide proper guidance & suggestions to take their investment decision without conflict with advisors' suggestions.

8. Limitations and Reflection on Further Research

This current research study of factors affecting investment intention among retail investors in the Colombo stock exchange has several limitations. The first limitation is research is mainly focused on the psychological factors of attitude, subjective norms & financial self-efficacy on the investment intention of retail investors and there can be other individual factors that are not considered in the current study, which can be focused on future studies. Further, the present study is a cross-sectional study, and a longitudinal study would provide a more comprehensive understanding of considered factors over a period of time.

9. Conclusion

The aim of the study was to contribute to the limited existing knowledge about the psychological predictors of investment intention in the Colombo Stock Exchange, Sri Lanka using the theory of planned behavior. Accordingly, the study investigated the impact of attitude, subjective norms, and financial self-efficacy on investment intention. The result of the study reveals that Attitude and subjective norms have a statistically significant positive impact on investment intention and the impact of financial self-efficacy on investment intention did not support a statistically significant relationship. The study also offers helpful managerial insights with regard to psychological factors that affect retail investors' investment intentions, which investment advisors must consider when giving advice on investments to retail investors and when developing education and awareness programs about stock market investments.

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Impact of Emotional Intelligence on Organizational Citizenship Behavior of Staff Employees: Selected ABC Bank Branches in the Colombo District

Guruge S.Y.¹, Yapa C.G.²

¹*McLarens Group of Companies.*

*senaliguruge15@gmail.com*¹

²*NSBM Green University, Sri Lanka.*

*chandima.y@nsbm.ac.lk*²

Abstract

Any organization's success or failure is highly dependent on the performance and behavior of its employees. Their patterns of behavior run like a fabric through the entire machinery of the organization. Employees who performed beyond their organizational expectations have such behaviors called "Organizational Citizenship Behavior". Prior literature has demonstrated that the staff employees' low level of organizational citizenship behavior has had an impact on different negative consequences within the organization. Further, the researcher has discovered that when employees improve their emotional intelligence, they can enhance their organizational citizenship behavior simultaneously. Therefore, this study was conducted to evaluate the impact of emotional intelligence on the organizational citizenship behavior of Staff employees of ABC Bank branches in the Colombo District. The total staff employees of all the ABC branches in the Colombo District were identified as the total population of this study, and a sample size of 320 staff employees was selected by the researcher. The sample size was selected by using the convenience sampling technique. The quantitative data were analyzed by using descriptive statistics and inferential statistics through SPSS software. Further, this study's conceptual framework was also identified as a fitted model. Finally, the researcher has suggested some recommendations for staff employees to improve their emotional intelligence dimensions in a significant manner.

Keywords: Emotional Intelligence, Emotional Quotient, Organizational Citizenship Behavior, Self – awareness, Relationship management

1. Introduction

1.1 Introduction to the Study

Human resources are the heart of any organization, and it is the main driving force that affects its success; Every employee is expected to perform specific job roles according to their job descriptions effectively (Sinha, 2020). However, what is more important is the behavior of employees who perform beyond their job roles, such behavior is known as Organizational Citizenship Behavior (Toke, 2022). OCB helps organizations to accomplish their targeted objectives and achieve competitive advantage (Toke, 2021). Nevertheless, Gupta (2021) explained that employees who exhibit low OCB can create different negative consequences for the organization; higher staff turnover and absenteeism rates, negative performances, low productivity, and excessive costs are examples of those negative consequences.

The researcher has observed these negative consequences in the Bank industry and identified those as the main symptoms of the problem. Further researchers have identified that these symptoms will directly affect to the productivity of the organization.

Rezaei et al., (2014) explained that employees' "Emotional Intelligence" (EI) can be utilized to overcome these consequences. EI provides the ability for employees to recognize and understand their human emotions and those employees can work with their co-workers effectively to achieve the desired goals and objectives of the organization (Keiling, 2022). Further, Vashisht, (2017) mentioned employees with strong EI can improve their abilities to become good citizens within the organization.

Numerous researchers have conducted their studies on this topic in different areas; Narayanan, (2016), Balouch & Fathollahzadeh,(2015), Vashisht, (2017) & Saedi & Khazaei, (2016); manufacturing, universities, hospitals, and health insurance firms. However, Rezaei et al., (2014) conducted their study on the employees of Sepah Bank branches in India, but no empirical findings are supporting this phenomenon which is the impact between emotional intelligence and organizational citizenship behavior in the bank industry of Sri Lanka. Thus, Overstreet and Overstreet (2017) suggested that future researchers should conduct their studies on how leaders' EI impacts the organizational climate beyond job-

related affective wellbeing and OCB of employees. There is no empirical study conducted on this concept to date, therefore, the researcher has identified those gaps throughout this study.

1.2 Research Problem

The main problem of this research is numerous negative consequences will affect on the productivity of the banking industry. Therefore, the researcher has narrowed down the main problem into a researchable problem, where the employees' low level of OCB has made an impact on different negative consequences within the organization. According to Bolino et al. (2010), OCB and citizenship pressure have a positive correlation. Numerous studies have defined employees' OCB levels and turnover rates as negatively related. Paillé (2013) defined that employees with low OCB levels are more likely to leave the workplace than those with high OCB levels. Further, Bolino et al. (2013) mentioned that employees who hesitate to support another employee in achieving organizational goals are more likely to identify as dissatisfied.

According to Paille, cited in Podsakoff et al. (2009), the overall OCB toward the organization and intention to leave are inversely correlated ($r = -0.22$), indicating that the more employees perform OCB, they are less likely to leave the organization. Further Koys (2001) explained employees' low OCB levels can lead to higher staff turnover and absenteeism rates.

As per the prior findings, the researcher can establish that employees' low OCB level significantly impacts different negative consequences within the organization. According to Vashisht (2017), strong "emotional intelligence" among employees can significantly increase their OCB level. EI is critical when developing a culture in which employees can perform beyond the "call of duty". Further, Alfonso et al. (2016) explain that an individual's EI positively influences OCB aimed at both individuals and organizations.

Under this study, the researcher is intended to evaluate the impact of Emotional Intelligence on the Organizational Citizenship Behavior of Staff employees in the bank industry. Therefore, the researcher has raised the research problem as the Staff employees' Organizational Citizenship Behavior has made an impact on different negative consequences within the organization.

1.3 Research Objectives

1. To evaluate the relationship between Self-awareness and OCB
2. To evaluate the relationship between Self-management and OCB
3. To evaluate the relationship between social awareness and OCB
4. To evaluate the relationship between Relationship Management and OCB

1.4 Research Questions

1. Whether there is a relationship between Self-awareness and OCB?
2. Whether there is a relationship between Self-management and OCB?
3. Whether there is a relationship between social awareness and OCB?
4. Whether there is a relationship between Relationship Management and OCB?

2. Literature review

2.1 Organizational Citizenship Behavior

OCB is identified as a mechanism that ensures organizational congruence and success which helps staff members to maintain a favorable work environment within the organization (Rüya Ehtiyar et al., 2010). Organizational Citizenship Behavior is identified as “Extra-Role behavior”, that employees perform towards the benefit of the company, which goes beyond their role expectations (Sharma & Jain, 2014). Abolaji Olugbenga (2014) explained that employees who exhibit more OCB are the individuals who go above and beyond for their organization and provide the necessary support for the overall functions of the organization.

Rezaei et al. (2014) explained two common characteristics of OCB; (1) citizenship behaviors are not directly improvable - not a part of an individual's job and (2) citizenship behaviors result from the unique efforts and contribution of employees that the organization expects from them to achieve success. Lo & Ramayah (2009) explained; individual contribution that goes beyond the scope of their positions, where a formal reward system does not exist to reward is referred to as role and extra-role behavior.

2.1.1 Dimensions of Organizational Citizenship Behavior

Altruism - According to Organ as cited in Gaddis (2016), Nadiri and Canova (2010), Koys (2001), Hakim et al. (2013), Alfonso et al. (2016), Yeh Ying and Ken Tzu Ting (2013), Modassir and Singh (2008), Doshmanziari and Doshmanziari (2016), Tofighi et al. (2015), and Abdi (2014) altruism is explained as a behavior assisting another co-worker who experiences difficulties with their work, which benefits the organization in long-run.

Courtesy - Khalili (2017) defined employee should demonstrate initiative – taking behaviors to avoid conflicts within the organization. Further, Hakim et al., (2013) described courtesy as an aspect of behavior where the employees adhere to the organizational rules and regulations to avoid work-related conflicts. Balouch & Fathollahzadeh, (2015) explained employees should exhibit pleasant behaviors toward other employees.

Civic virtue - Lo & Ramayah, (2009) mentioned, an obligation of subordinates to engage in the company, by attending meetings that are not required by the organization and adapting to the changes made by the organization. Rezaei et al. (2014) mentioned that this includes behavior like assisting with the development of functions and acquiring the knowledge to increase the awareness of other employees.

Conscientiousness - Numerous research studies have explained conscientiousness as employees who perform more job duties than the requirement by the organization Balouch et al.,(2015), Nadiri & Tanova, (2010), Rezaei et al., (2014), Alfonso et al., (2016), and Modassir & Singh, (2008). Further, Koys (2001), defined conscientiousness as employees performing in-role behaviors.

Sportsmanship - Employee willingness to accept and tolerate inconvenience and unavoidable situations without complaining about the difficulties experienced (Vashisht, 2017). Employees who exhibit more sportsmanship behavior have positive attitudes and do not complain about inconvenient situations they have experienced Balouch & Fathollahzadeh, (015), & Nadiri & Tanova, (2010).

2.2 Emotional Intelligence

Emotional Intelligence is the capability of understanding one's emotions and other employees' emotions and managing emotions successfully. Goleman et al., (2002),

Rezaei et al., (2014), Hosseini & Zirak, (2016), and Narayanan, (2016). According to Jambheshwar, (2014), EI can be about being a nice person to other people whereas some people consider EI as a dilemma. According to Ahuja, as cited in Soltani et al. (2015) and Ang Chooi Hwa and Amin (2016), employees who can understand themselves and other employees, control their emotions, and react immediately to changes, can perform their tasks more effectively.

Emotional Intelligence enables a leader to create an emotional connection with others to influence them to exhibit behavior beyond the scope of their roles (Gaddis, 2016). Further Van Kleef et al. (2011) explained employees should be aware of how to express their emotions toward other employees to influence them socially. Reviewing the literature, James et al. (2010) mentioned two aspects of emotional intelligence; Self-mastery job capabilities that include confidence, trustworthiness, and initiative that create exceptional performance and Relationship skills like empathy, team spirit, and leadership may arise.

Emotional Intelligence has two models (A. P. Singh, 2017); Trait emotional intelligence and Ability emotional intelligence. The trait model of EI Petrides et al., (2007) was developed under trait theory which evaluates how employees should understand their emotional abilities. Petrides et al., (2011) explained this model function as a role of self-perception of individuals that can be measured by conducting self-reports. Further, A. P. Singh (2017) mentioned this Trait EI model can be conducted to understand an individual's personality whereas this model is significantly dependent on an individual's personality characteristics.

2.2.1 Dimensions of Emotional Intelligence

Self-awareness - Daniel Goleman, cited in Hakim et al. (2013), described self-awareness as an ability of an individual to recognize their emotions, understand the impact of their emotions, and how they utilize their emotions to make their own decisions. Further, Saeedi and Khazaei, (2016) mentioned self-awareness as consciousness, which means employees should have a deeper understanding of their emotions, strengths, weaknesses, and motives that affect their careers.

Self-management - Self-management is the ability to control our own emotions and other employees' emotions effectively, as defined by Goleman cited in (Rezaei et al., 2014). Further, Hakim et al. (2013) explained this as how we deal with our own emotions and other employees' emotions. According to Jafari & Shapoori

(2018), the components of measuring self-management are discussing problems with other employees, preventing unnecessary problems, developing the capacity to regulate emotions, using cognitive processes to manage emerging situations, and achieving desired outcomes for self-motivation.

Social awareness - Rezaei et al. (2014) defined the ability to understand and recognize our co-workers' emotions and behaviors that affect the overall effectiveness of the organization. Social awareness is the ability to recognize other employees' emotions and actions and raise awareness of what is going on around them (Balouch & Fathollahzadeh, 2011). The components of measuring social awareness are understanding and recognizing the body language of other employees, listening to them carefully, and providing feedback to employees for their outstanding performances (Jafari & Shapoori, 2018).

Relationship management – As described by Goleman, cited in Rezaei et al. (2014), and Saeedi and Khazaei (2016), relationship management is an employee's ability to interact with other employees, influence them, adapt to working cultures, communicate effectively, and overcome disputes within the organization. Relationship management is the ability to manage emotions while working with other employees, integrate work processes smoothly, and maintain positive relationships with other employees according to Hakim et al., (2013).

Further, Jafari & Shapoori (2018) described emotional handling as measured by components like supporting other employees, demonstrating positive feelings, and maintaining positive relationships within the organization.

2.3 Emotional Intelligence and Organizational Citizenship Behavior

Employees' EI can recognize their own emotions and other employees' emotions and helps to improve better relationships with other employees to create a positive working environment (Alfonso et al. 2016). Abdi (2014), indicates that there is a significant relationship between individuals' emotional intelligence and their citizenship behaviors. Saeedi and Khazaei (2016), found that there is a positive impact of emotional quotient on OCB according to the simple regression results. Further, their study defined Emotional Intelligence as the emotional quotient.

Khalili (2017), mentioned individuals with higher levels of EI demonstrate a higher level of citizenship behavior by volunteering and encouraging other employees to perform better within the workplace. According to Cote and Miners, cited in Yeh

Ying and Ken Tzu Ting (2013), employees with a higher level of EI are more likely to exhibit a higher level of citizenship behaviors within the organization.

According to Khalili (2017), EI is used to observe and control emotions to enhance employees' OCB successfully. Narayanan (2016) considered Emotional Intelligence a crucial element in controlling the relationship between employees and management with organizational citizenship practices. Furthermore, Jain (2012) explained that EI plays a role in enhancing OCB performance.

2.3.1 Dimensions of Emotional Intelligence and Organizational Citizenship Behavior

Saeedi and Khazaei, (2016) examined the impact of Emotional Intelligence dimensions on the OCB of employees in a healthcare insurance firm. According to the results, they discovered that the main four dimensions of EI; Conscientiousness (Self-awareness), Self-management, Social-awareness, and Relationship Management positively impact OCB. Further, Sahafi et al. (2011) examined that there is a positive impact of empathy (social awareness) and self-control (self-management) on OCB. Gaddis (2016), described the empathy dimension as having a positive impact on OCB and the Self-management dimension as having a negative impact on OCB.

The dimensions of EI; Self-awareness, Self-management, and Empathy have a positive relationship with the OCB of employees (Korkmaz & Arpacı, 2009). Naghdi and Shatalebi (2013) evaluated the dependability of Organizational Citizenship Behavior by using emotional intelligence dimensions. According to the results, they found there is a positive impact of initiative-taking, self-awareness, and social awareness on OCB. Furthermore, Turnipseed and Vandewaa (2012) also found that there is a significant relationship between OCB and all dimensions of Emotional Intelligence.

2.4 Significance

Individuals with a strong EI and who exhibit high OCB tend to support other employees who struggle to achieve their targets, and those individuals perform beyond their job descriptions to achieve the organization's success (Saeedi & Khazaei, 2016). Employees directly contribute to the success of the organization when they exhibit more OCB within the workplace (Vashisht, 2017). Sharma and

Jain (2014), described OCB as human behavior that every employee should study to perform better within the organization. Therefore, this research indicates that the dimensions of EI can improve employees' commitment to the organization's success. Individuals who engage in social activities should be emotionally intelligent to effectively work with other employees in such situations (Saeedi & Khazaei, 2016). Considering the results of Abolaji Olugbenga (2014), the researcher emphasized that this study helps organizations to recruit people with a higher level of EI who can exhibit more OCB among co-workers. Therefore, this research would help organizations to identify their best employees who exhibit a higher level of citizenship behavior within the workplace. Further, no empirical evidence that supports this phenomenon in Sri Lanka's Bank sector, further this study helps employees to enhance their knowledge of subjects like Emotional Intelligence and Organizational Citizenship Behavior in a greater direction.

2.5 Hypothesis

H1 – There is a relationship between Self-awareness and OCB

In the literature review chapter, it stated that there is a direct relationship between Self-awareness and OCB. Turnipseed & Vandewaa, (2012) and Korkmaz & Arpaci, (2009), mentioned that there is a significant and positive relationship between Self-awareness and OCB. The findings of this study will indicate that Self-awareness has a significant and moderate positive relationship with Organizational Citizenship Behavior.

H2 – There is a relationship between Self-management and OCB.

Literature from prior studies, Sahafi et al., (2011), Balouch & Fathollahzadeh, (2015), and Turnipseed and Vandewaa (2012), justified the above relationship between these two variables accordingly. The dimensions of EI; Self-awareness, Self-management, and empathy have a positive relationship with the OCB of employees (Korkmaz & Arpaci, 2009).

H3 – There is a relationship between social awareness and OCB.

The literature of this study demonstrated that the empathy (Social Awareness) dimension has a positive impact on OCB (Gaddis, 2016). The researcher has also justified this statement by using the results of this study. The result of this study

will indicate that Self-awareness has a significant and moderate positive relationship with Organizational Citizenship Behavior.

H4 – There is a relationship between Relationship Management and OCB

According to Saeedi and Khazaei, (2016), there is a significant and moderate positive relationship between relationship management and organizational citizenship behavior. Furthermore, Turnipseed and Vandewaa (2012) also found that there is a significant relationship between OCB and all dimensions of EI.

2.6 Conceptual Model

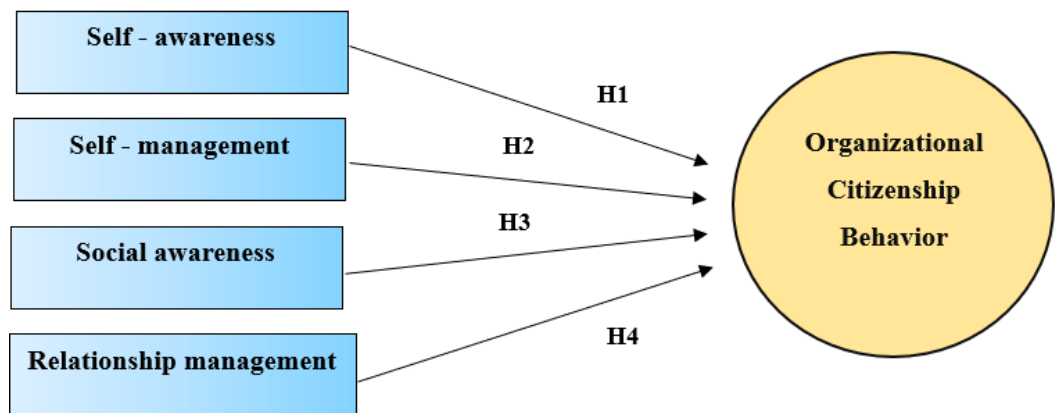


Figure 1: Conceptual Model

3. Method

The structured questionnaire contains twenty-six close-ended questions including five demographic questions. P. M. Podsakoff et al. (1990), Nadiri and Tanova (2010), Paillé (2013), and Sharma and Jain, (2014) mentioned that these studies were used to develop the OCB measuring instruments like, data collection methods, questions, and analysis methods. EI measuring instrument was developed following the studies done by Boyatzis and Sala (2000), and Singh (2004). Furthermore, both instruments are measured by using a “five-point Likert scale” (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

3.1 Population

According to this study, the target population is the total number of staff employees who work in ABC Branches in the Colombo District. Further, this study's total population is 1800 Staff employees Annual report, (2022).

3.2 Sample

In the view of Louangrath and Louanglath(2017), a "Sample" is a representation of a population and is comprised of important characteristics that are like the population. According to this study, the targeted population is 1800 Staff employees, and 320 Staff employees were selected as the sample size for this research by using the Morgan table. Currently, 45 ABC Bank Branches are operating in the Colombo District, where the researcher has selected 20 ABC Bank Branches for this research.

3.3 Sampling Method

These branches were chosen based on the highest staff population. Stratified sampling method was used to select the 20 ABC Branches, whereas convenience sampling was used to select the 320 staff employees from the selected ABC branches.

4. Results

The features of the sample have been explained by using descriptive statistics (Trochim, 2021). Here, the researcher has used mean, frequency, percentage, range, standard deviation, and skewness as descriptive statistical methods.

Table 1: Analysis of Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	127	39.7	39.7	39.7
Female	193	60.3	60.3	100.0
Total	320	100.0	100.0	

4.1 Reliability Analysis

Table 2: Summary of Reliability Analysis

Variable	Cronbach's Alpha	Reliability	Conclusion
OCB	0.765	0.765 > 0.7	Reliable
Self – Awareness	0.754	0.754 > 0.7	Reliable
Self – Management	0.755	0.755 > 0.7	Reliable
Social Awareness	0.758	0.758 > 0.7	Reliable
Relationship Management	0.732	0.732 > 0.7	Reliable

Table 2 - All five variables' Cronbach's values were achieved greater than 0.7, which indicates that all the variables used in this study are more dependable and have achieved internal consistency. OCB variable is considered the most reliable variable that has the highest Cronbach's alpha value (0.765), and Relationship Management is considered the least reliable variable, with a Cronbach's value of 0.732.

4.2 Correlation Analysis

Table 3: Summary table for the Correlation between variables

Dependent Variable	Independent Variable	Spearmon's Correlation	Significance Level	Conclusion
OCB	Self – awareness	0.667	0.000	There is a moderate – positive relationship
	Self – management	0.647	0.000	There is a moderate – positive relationship

	Social awareness	0.646	0.000	There is a moderate – positive relationship
	Relationship management	0.674	0.000	There is a moderate – positive relationship

The strongest relationship between these variables is between relationship management and OCB, due to the 0.674 Spearman’s correlation between the two variables.

4.3 Regression Analysis

Table 4: Summary of Regression Model

Model Ssummary	
R Square	0.747
R	0.864
Adjusted R square	0.744

According to Table 4, the R square is 0.747, which is greater than 0.05 ($0.747 > 0.05$), therefore, it indicates that the fitness of this model is high. R square also explained that all four independent variables impact OCB by 74%. Since the adjusted R square is 0.744, it demonstrates that if we add one more independent variable to the model, the productive power of the OCB variable will decrease (if the adjusted R square is less than the R square).

Since the p-value is less than 0.05 ($0.000 < 0.05$) it indicates that the regression model can statistically predict the Organizational Citizenship Behavior (dependent variable).

Table 5: ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1208.242	4	302.060	232.579	.000 ^b
	Residual	409.105	315	1.299		
	Total	1617.347	319			

a. Dependent Variable: OCB

b. Predictors: (Constant), RM, SM, SA, SO

Table 6: Coefficient Table

Model		Unstandardized Coefficients B	Standardized Beta Coefficients	Significance	95% Confidence Interval for B	
					Lower bound	Upper bound
1	(Constant)	2.183		0.001	0.956	3.409
	SA	0.300	0.253	0.000	0.171	0.430
	SM	0.225	0.188	0.001	0.092	0.357
	SO	0.203	0.174	0.002	0.073	0.334
	RM	0.381	0.317	0.000	0.243	0.518
Dependent Variable: OCB						

Based on the regression model findings, the multiple regression model for this study can be developed as follows.

$$Y = Q_0 + Q_1 X_1 + Q_2 X_2 + Q_3 X_3 \dots$$

$$Y = 2.183 + 0.300(SA) + 0.225(SM) + 0.203(SO) + 0.381(RM)$$

4.4 Hypothesis Testing

Table 7: Summary of Hypothesis Testing

Hypothesis	Significance	Accept/Reject
H1 – There is a relationship between Self-awareness and Organizational Citizenship Behavior	0.000 < 0.05	Accept
H2 – There is a relationship between Self-management and Organizational Citizenship Behavior	0.001 < 0.05	Accept
H3 - There is a relationship between Social Awareness and Organizational Citizenship Behavior	0.002 < 0.05	Accept
H4 - There is a relationship between Relationship Management and Organizational Citizenship Behavior	0.000 < 0.05	Accept

H1 – There is a relationship between Self-awareness and OCB.

According to Table 7, the relationship between Self-awareness, and Organizational Citizenship Behavior (OCB) has a significant value that is less than 0.05 ($P = 0.000$). According to the significance value, the null hypothesis should be rejected (H_0), and the alternative hypothesis (H_1) should be accepted. The beta coefficient of Self-awareness is 0.253, which indicates that there is a 25.3% impact of Self-awareness on Organizational Citizenship Behavior (Table 16). Therefore, when the Self-awareness is increased by 1%, the employees' Organizational Citizenship Behavior will increase by 25.3% accordingly.

H2 – There is a relationship between Self – Management and OCB

According to Table 7, the relationship between Self-management and Organizational Citizenship Behavior (OCB) has a significant value that is less than

0.05 ($P = 0.001$). According to the significance value, the null hypothesis should be rejected (H_0), and the alternative hypothesis (H_2) should be accepted. The beta coefficient of Self-management is 0.188, which demonstrates that there is an 18.8% impact of Self-management on Organizational Citizenship Behavior. Therefore, when the Self-management is increased by 1%, the employees' Organizational Citizenship Behavior will increase by 18.8%.

H3 – There is a relationship between Social Awareness and OCB.

According to Table 7, the relationship between Social Awareness and Organizational Citizenship Behavior (OCB) has a significant value that is less than 0.05 ($P = 0.002$). According to the significance value, the null hypothesis should be rejected (H_0), and the alternative hypothesis (H_3) should be accepted. The beta coefficient of social awareness is 0.174, which demonstrates that there is a 17.4% impact of Social Awareness on Organizational Citizenship Behavior. Therefore, when Social Awareness is increased by 1%, the employees' Organizational Citizenship Behavior will increase by 17.4%.

H4 – There is a relationship between Relationship Management and OCB

According to Table 7, the relationship between Relationship Management and Organizational Citizenship Behavior (OCB) has a significant value that is less than 0.05 ($P = 0.000$). According to the significance value, the null hypothesis should be rejected (H_0), and the alternative hypothesis (H_4) should be accepted. The beta coefficient of Relationship Management is 0.317, which demonstrates that there is a 31.7% impact of Relationship Management on Organizational Citizenship Behavior. Therefore, when Relationship Management is increased by 1%, the employees' OCB will increase by 31.7%.

5. Discussion

The researcher's main purpose of this study is to evaluate the dimensions of Emotional Intelligence in increasing staff employees' Organizational Citizenship Behavior in ABC Bank branches in the Colombo District. Mainly, Emotional Intelligence was measured by four dimensions namely, Self-awareness, Self-management, Social Awareness, and Relationship Management, which are identified as independent variables of this study.

Considering the findings of previous studies, Rezghi Shirsavar and Souri (2015) mentioned that there is a positive relationship between Emotional Intelligence and Organizational Citizenship Behavior with a Pearson correlation of 0.770 and a significant value of 0.000 which is less than 0.05, indicating that this relationship is significant. There is a significant and positive relationship between Emotional Intelligence and OCB with a Pearson correlation of 0.687 and a significant value of 0.001 (Abdi, 2014).

According to, Balouch and Fathollahzadeh (2015), there is a positive Pearson correlation (0.483) between EI and OCB of staff employees at Islamic Azad University and, there is a significant relationship between EI and OCB since the significant value is 0.007, which is less than 0.05. In reviewing the results of the impact of the dimensions of Emotional Intelligence on Organizational Citizenship Behavior, Abdi (2014) mentioned that Self-awareness, and Organizational Citizenship Behavior have a positive relationship with a Pearson correlation value of 0.7 with a significant value of 0.001 which is less than 0.05, which indicates that the relationship between these two variables is significant.

According to this study, the Self-awareness, and Organizational Citizenship Behavior have a positive and moderate relationship, with a Spearman correlation of 0.667 and the significant value of this relationship is 0.000, which is less than 0.05 ($0.000 < 0.05$).

Therefore, Self-awareness and OCB variables are positively and significantly correlated. According to Jamshidi Avanaki and Khazaei (2014) Organizational Citizenship Behavior and Self-management have a positive correlation (0.433), with a significant value of 0.000, which indicates that the Organizational Citizenship Behavior and Self-management relationship is positively and significantly correlated. In this study, there is a positive and moderate relationship with the Self-management and Organizational Citizenship Behavior with a Spearman correlation of 0.647, with a significance value of 0.000.

Hence, Self-management and OCB variables are positively and significantly correlated. The Pearson correlation of Social Awareness and Organizational Citizenship Behavior is 0.58, which has a significant value of 0.000 which is less than 0.05. These results indicate that there is a positively and significantly correlated relationship between social awareness and OCB (Rezaei et al., 2014). According to this study, there is a positive and moderate relationship between

social awareness and Organizational Citizenship Behavior, with a Spearman correlation of 0.646, and a significance value of 0.000.

Therefore, there is a positive and significant correlation between social awareness and OCB. According to Abdi (2014), Relationship Management and Organizational Citizenship Behavior have a positive relationship, with a Pearson correlation of 0.686, which has a significant value of 0.001 which is less than 0.05. So, there is a positive and significant correlation between the two variables. In this study, the Spearman correlation between Relationship Management and OCB is 0.674, which has a positive and moderate relationship. The significant value is 0.000, which is less than 0.05.

Therefore, there is a positive and significant correlation between relationship management and OCB. Considering the results of the multiple regression analysis, the R squared is 0.747, which is greater than 0.5 ($0.747 > 0.5$), which explained that there is 74.7% of the variation in Organizational Citizenship Behavior can increase due to four independent variables.

According to the R squared value, the model established under the conceptual framework can be identified as a fitted model. The adjusted R square of this study is 0.744. Further, the model significance (p-value) is 0.000, which is less than 0.05 ($0.000 < 0.05$) indicating that the regression model can statistically predict the dependent variable (OCB). Thus, all four independent variables have demonstrated a positive and significant linear relationship with OCB. According to this study, the beta coefficient of Self-awareness is 0.253, which means the impact of Self-awareness on OCB is 25.3%, with a significant value of 0.000, which is less than 0.05 ($0.000 < 0.05$). Therefore, it can be concluded that Self-awareness has a positive and significant impact on Organizational Citizenship Behavior.

According to this study, the beta coefficient of Self-awareness is 0.253, which means the impact of Self-awareness on OCB is 25.3%, with a significant value of 0.000, which is less than 0.05 ($0.000 < 0.05$). Therefore, it can be concluded that Self-awareness has a positive and significant impact on Organizational Citizenship Behavior. In a review of this study, the beta coefficient of Relationship Management is 0.317, which means there is a 31.7% Relationship Management impact on Organizational Citizenship Behavior. Further, the significance value is 0.000, which is less than 0.05 ($0.000 < 0.05$) indicating that Relationship

Management has a positive and significant impact on Organizational Citizenship Behavior.

The researcher used Cronbach's Alpha to assess the reliability of the questionnaire, and each variable had more than 0.7 Cronbach's Alpha indicating that the data set is highly dependable. Further, in the hypothesis testing, all the developed hypotheses were evaluated according to the significant values in the coefficient table, where all the alternative hypotheses were accepted by eliminating the null hypothesis accordingly.

6. Recommendations

a) Enhancing employees' Self-awareness

For instance, they can conduct self-motivation training programs within the department to increase the staff employees' awareness of identifying their own emotions, as well as their strengths and weaknesses (Indeed, 2022). Employees should always be curious about their surroundings, absorb the knowledge of others, while identifying that self-questioning is particularly important to become a more self-aware person (Wilhelm, 2021).

Journaling is a suitable method to improve self-awareness (Indeed, 2022). This gives the freedom for employees to write their emotions and thoughts, which is an excellent method for identifying and expressing their emotions, feelings, and frustrations productively (Wilhelm, 2021).

b) Improving Self-management skills

Since the banking industry is highly stressful, this method would help employees to have stress-free existence at work and home. In addition, employees can conduct a self-evaluation on themselves by rating their achievements, strengths, weaknesses, and mistakes Munro, (2021) & Zhang, (2020). Employees can enhance their self-management skills by giving respect to every person which also improves their courtesy behavior (Zhang, 2020). Meditation programs can help employees to be calmer, and more patient and increase their energy, this would also help to control their emotions successfully (Munro, (2021).

c) Developing Social Awareness abilities

Communication is a major attribute of improving social awareness, therefore, the researcher has suggested for employees on conducting self–study tests in effective communication to enhance their listening skills Connelly, (2020) & Watkins, (2022). Another suggestion for improving social awareness is to maintain closer interactions with other employees, paying attention to them and understanding their emotions and feelings (Watkins, 2022).

d) Managing effective relationships

According to the current study’s findings, there is a positive relationship (0.674) correlation between Relationship Management and employees’ Organizational Citizenship Behaviors. In addition, the researcher has suggested that by conducting conflict management programs, organizations can avoid unnecessary conflict among other employees (Connelly, Relationship Management, 2020). Further, the researcher suggested that by identifying employees who are performing beyond the organizational expectations the organizations can provide them with the necessary intrinsic motivation and feedback to retain them within the organization for a longer period. Therefore, those are the recommendations that the researcher has recommended for staff employees to increase their emotional intelligence dimensions which would directly affect on increasing their organizational citizenship behaviors accordingly.

7. Limitations

- This research was conducted in the banking industry, where most banks are highly confidential about the information that they are providing to third parties. Therefore, the researcher faced some difficulties when collecting responses from the participants, as most of them were not interested in mentioning their branch name in the questionnaire.
- The researcher distributed printed questionnaires to several bank branches, which was determined to be a time-consuming approach when it comes to data collection.
- This study was conducted in ABC Bank branches in the Colombo district; therefore, the results of this study cannot be generalized because the researcher has only focused on one Bank in one district.

- Further, the researcher has selected only 20 ABC branches in the Colombo District, based on the highest staff population. Therefore, the results that were gathered do not support this study at a maximum level.
- In addition, the researcher has limited the sample size to 320 employees from the selected ABC Branches (According to the Morgan table) which can also be identified as a limitation of this study.
- According to Kwak and Park (2019), the multiple regression analysis can be conducted on the assumption that the normality is fulfilled when the sample size is greater than 30.

8. Conclusion

According to the results, the researcher has identified that all four dimensions of Emotional Intelligence have a positive and significant relationship with the organizational citizenship behavior of staff employees. Further, the researcher has established four research objectives by conducting a proper literature review to evaluate the impact of Emotional Intelligence on Organizational Citizenship Behavior. Additionally, based on the results of the multiple regression analysis, the coefficient of determination (R-squared) value is 0.747, which indicates that all four independent variables; Self-awareness, Self-management, Social Awareness, and Relationship Management have a 74.7% of overall variations in Organizational Citizenship Behavior. According to the R-squared value of this model it is revealed that the conceptual model of this study is fitted. Since the significance values of all the independent variables were less than 0.05, all the alternative hypotheses were accepted by rejecting all null hypotheses.

Finally, based on the findings of this study, those staff employees who are currently working in ABC Bank branches should significantly enhance their Self-awareness, Self-management, Social Awareness, and Relationship Management to boost their organizational citizenship behaviors successfully.

9. Suggestions for Future Research

As suggestions for future research, researchers can consider conducting their future research on evaluating how emotional intelligence impacts employees' work-life balance, thus, another future research can focus on evaluating the factors affecting the effectiveness of Emotional Intelligence training programs. Also, as there are so

many quantitative studies that have examined this topic, the researcher suggests future researchers to conduct more qualitative studies on this topic. In addition, future researchers can conduct their studies by analyzing the impact of employee engagement on employees' performance. Further, future researchers could conduct their studies on how leaders' emotional intelligence impacts the citizenship behaviors of their subordinates, by considering organizational climate as the moderating variable (Overstreet & Overstreet,2017).

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The Impact of Organizational and Technological Barriers on Implementing GSCM Practices in the Food and Beverage Manufacturing Industry in Sri Lanka

Chanchala B.T.¹, Joseph S.²

*¹NSBM Green University, Sri Lanka.
tharushichanchala1999@gmail.com¹*

*²NSBM Green University, Sri Lanka.
shehani.j@nsbm.ac.lk²*

Abstract

Sri Lankan businesses can anticipate cost savings and greater customer value from the efficient implementation of green supply chain techniques. The food and beverage sector is crucial for promoting pollution-free goods and reducing their negative effects on the environment. This study was carried out to ascertain whether organizational and technological barriers had an impact on the adoption of GSCM techniques in Sri Lankan food and beverage manufacturing companies. Based on the literature, this study assumed that those two factors are the most impactable factors on the dependent variable, and has only tested them rather than considering operational, financial, and other aspect. An online survey was used to gather primary data, which was then processed through the statistical analysis program SPSS (Statistical Package for the Social Sciences). According to the study's findings, both independent variables—organizational and technological factors—have a huge impact on how well GSCM procedures are implemented. Therefore, we can finalize that those two are highly influential barriers on implementation of GSCM practices. Considering the results, the researcher recommends that Sri Lankan food and beverage manufacturing companies take action to overcome those barriers and implement GSCM practices in their organizations. Moreover, some areas for future studies are also provided in this growing field.

Keywords: GSCM practices, Organizational barriers, Technological barriers

1. Introduction

Green Supply Chain Management (GSCM) is a new trend in supply chain development (Jayarathna, 2016a). It is developed as follows. Traditionally, businesses have considered their strategy to minimize costs and maximize profits. They place great emphasis on Supply Chain Management (SCM) as a result of effectively supporting SCM to achieve cost reduction and profit improvement, which gives the organization a competitive advantage (Ong & Rui, 2017). In addition, in the 20th century, numerous organizations and corporate strategies related to waste reduction for cost savings and environmental protection purposes came into force. Just after entering the 21st century, the term “green” is gaining strength and recognition to protect the environment and the reputation of the organization (Zhang et al., 2009).

Sri Lankan manufacturing companies are currently considering all GSCM practices and some of them have taken some initial steps to implement GSCM practices (Jayarathna, 2016b). This is evidence that Sri Lankan manufacturing companies are focusing on the environmental impact of their organizational operations. According to EDB (Export Development Board) of Sri Lanka, Sri Lankan food and beverage sector covers a wide range of products such as coconut, vegetables, and fruit-based products, concentrates and juices, semi-cooked food, confectionery, and bakery products, ready-to-serve food, beverages, animal feed, and preparations of cereals and flour. The food and beverage industry is key for promoting pollution-free products and mitigating environmental impact (Wang et al., 2016a). Considering the production, packing and transportation of raw material and finished products, food and beverage manufacturing sector has a huge impact on environment. Therefore, it is important to study about GSCM practices in this industry. Although some manufacturers intend to implement GSCM practices, most have not yet implemented GSCM. Since the food and beverage industry is one of the major industries in Sri Lanka, it is important to focus on this industry with regard to this matter. However, they face a lot of challenges in implementing green supply chain practices; such as organizational barriers, technological barriers, financial barriers, information barriers, and the perception of the company's environmental impact (Ong & Rui, 2017). In particular, organizational barriers and technological barriers have a significant relationship with GSCM adoption (Ong & Rui, 2017). The best way to identify these critical bottlenecks is

through research and development (R&D). Only then, they will be able to take steps to overcome these barriers.

Considering the Sri Lankan context, some research studies have been conducted in terms of green supply chain management and the impact of GSCM on several factors such as organizational performance, customer satisfaction, etc. Although these studies provide some evidence for evaluating the green concept in supply chain management, none of them have exclusively investigated the impact of critical barriers to implementing green supply chain management, particularly organizational and technological barriers, which have a significant relationship with the adoption of GSCM in the food and beverage industry (Ong & Rui, 2017). As the previous studies in the context of Sri Lanka have been conducted in other industries there is a gap in research when organizations find solutions in this matter. Therefore, this study will contribute to the literature, focused on a single industry; food and beverage manufacturing.

This study enables a degree of control of the environment by the most effective examination of industry-specific barriers to implementing GSCM. In this regard, the objectives of this study are to investigate the impact of organizational barriers on implementing GSCM practices in food and beverage manufacturing firms in Sri Lanka, and to investigate the impact of technological barriers on implementing GSCM practices in food and beverage manufacturing firms in Sri Lanka. This research will provide guidance and reference for future researchers to conduct their research studies by getting knowledge and understanding since this covers a research gap. Furthermore, findings will help the manufacturing firms (especially the food and beverage industry) in Sri Lanka to evaluate the critical barriers that affect in implementation of GSCM practices. By understanding them, they can get actions to overcome or mitigate those barriers and implement GSCM practices in their organizations. Moreover, this will contribute to the policymakers to provide insights into the current progress of green practices of manufacturing firms. When there is support and resources from the policymakers, this may further develop the manufacturing firms to the next level in green practices and apply green practices to their supply chain.

2. Theoretical Background

2.1 Supply Chain and GSC Management

As reported by Mudgal et al., 2009, supply chain management had been outlined, due to the increased competition in the international markets and it is a recent development in management theory. According to Oliveira et al., (2018) green supply chain could be a conception which is gaining increased favour day by day as a result of its commitment to sustainability for the businesses. Green supply chain management (GSCM) is basically greening the supply chain with the objective of balancing environmental problems and the firm's performance (Mudgal et al., 2009). Green supply chain management practices have been developed over the past years and continue to evolve. The addition of the 'green' part to supply chain management includes addressing the influence and association between supply chain management and therefore the natural environment (Srivastava, 2007a; Tyagi., 2017). Most of organizations in developing countries intended to implement green practices to their business to minimize the negative environmental effects rather than implementing a proactive approach to minimize the sources of waste or pollution (Anbumozhi & Kanda, 2005).

According to Min & Kim, (2012) the main purpose GSCM is to preserve our resources and close environments to forestall lives from deteriorating. GSCM is additionally the creation and implementation practices exploitation numerous Rs that area unit cut back, reuse, rework, recycle, remanufacture, reverse supplying, refurbish, reclaim, etc. (Younis ., 2016b) investigate the kind of GSCM practices the corporations adopt in accordance to their firm's position (upstream, midstream and downstream), the results show that corporations that area unit within the downstream position concentrate on inexperienced purchase, style and internal environmental management, corporations within the upstream area unit additional conservative in implementing GSCM and corporations within the midstream focus additional on inexperienced supplying and producing. By considering all these previous researches conducted in implementation of GSCM, this research intends to study the implementation GSCM practices in Sri Lankan manufacturing industry with the support of the theoretical aspects of resource-based theory and stakeholder theory.

2.2. Barriers to Implementing GSCM

According to Uddin et al., (2019) high cost of advanced technology is the most significant barrier for implementing GSCM, while green technology and techniques are the most effective pathways to GSCM. This study has examined the independent variables such as technological barriers, financial barriers, knowledge barriers, government support and policies, and outsourcing. According to the results, they have outlined that the higher cost of the advanced technology is the most critical barrier to this matter. Govindan et al., (2014) also has been focused on outsourcing, technology, knowledge, financial involvement, and support. It has been concluded that lack of technology is the most critical barrier to GSCM implementation.

As reported by Ong & Rui, (2017) perception of company's environmental impact, organizational barriers and technological barriers have a significant relationship with the adoption of GSCM. The cost of green practices is barrier to GSCM implementation (Zhu & Geng, 2013). On other hand, Rodriguez et al., (2017) research proposed that the lack of innovation within the production procedure is taken into consideration as the major barriers in GSCM implementation as all other barriers are the results of failure in innovation. When considering all these previous articles, they have concluded different aspects as critical barriers to implement GSCM practices. All those factors can be basically categorized as organizational barriers, technological barriers, information barriers, resource barriers and knowledge barriers. While reviewing the literature it is able to identify that some of the research propose that organizational barriers and technological barriers play as critical barriers. But some other research articles outline the opposite. Therefore, this study mainly focuses on those two types of barriers and investigate whether they have a significant impact on implementation of green supply chain management practices in Sri Lankan manufacturing companies. Following paragraphs give a description about previous research conducted in organizational barriers and technological barriers.

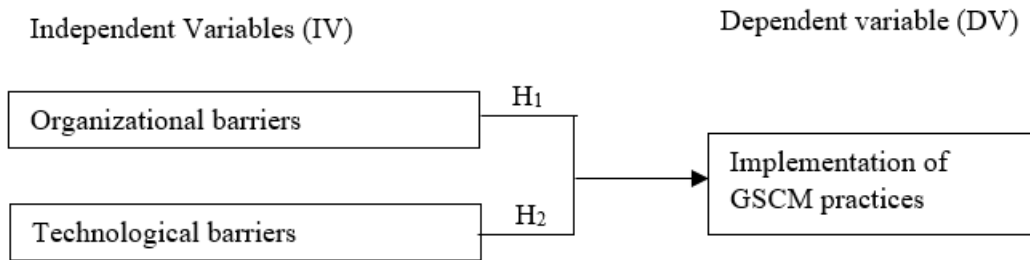


Figure 1: Conceptual Model
(Source: Ong & Rui, 2017)

2.2.1 Organizational Barriers

According to the previous researchers, organizational barriers like less commitment of top management, less commitment of middle-level management, hinders in the culture of the organization, etc. can impact on the implementation of GSCM. Those factors are discussed under this subheading. Commitment, guidance, support, and leadership from the highest management can considerably impact the success of the company's environmental management practices (Govindan et al., 2014; Griffin et al., 2004; Ojo, Mbowa, & Akinlabi, (2014). Leadership can be considered as an integral factor to implementing strategic initiatives in green supply chain management (Zhu et al., 2012). Lack of interest and commitment by top-level management might cut back the structure capability to think about the likelihood for GSCM and implementation of related practices (Dubey et al., n.d.; Hsu & Hu, 2008). There are other research articles like Jayant et al., (2014).; Kamaruddin et al., (2013) are also supporting the fact that role of top management determines the proactiveness of an organization in GSCM initiatives. Other than that, the commitment and the supportiveness of the middle-level management are also positively related to green supply chain management in a firm. (Ojo, Mbowa, & Akinlabi, 2014). By considering these factors, it can be identified that the commitment of both the top management, middle management, and all the individuals in the organization is very important for being successful in green supply chain management in the particular organization. that means less commitment is a barrier to implementing GSCM in a company. Other than the commitment of the management, the culture of the organization can also be a factor

that comes under the organizational barriers to implementing GSCM. Resistance of change in the company culture is one of the factors which can be considered as organizational barrier (Abdullah et al., 2016; Jayant & Azhar, 2014). Their findings are in keeping with (Dashore, & Sohani, (2008) study, that depicts that poor organization culture like top level management's weak involvement in motivating the workers, can cause barrier in GSCM. According to Srivastav et al., (2015) rewards and motivation is additionally a part of the structure culture to beat the barriers.

Besides the commitment of management and organizational culture, corporate social responsibility and recycle and reuse practices and efforts are also coming under the organizational barriers. Mudgal et al., (2010) proposed that corporate social responsibility (CSR) is one of the elements of organizational commitment. As a result of that, if the organization has only fewer corporate social responsibility practices that can be a notable barrier to the implementation of green supply chain practices in that particular organization. In addition to the CSR activities, attempts of the organizations to implementation of recycling and reusing practices and the sustainability certification (ISO 14002) are also a part of the organizational barriers which outstandingly impact to the implementation of green supply chain management practices in an organization (Jayant & Azhar, 2014). These are the main barriers that previous studies have discussed under organizational barriers.

Hypothesis 1: There is a significant impact of organizational barriers on implementation of GSCM practices.

2.2.2 Technological Barriers

There are previous research articles that have outlined some elements which are categorized under the technological barriers to the implementation of green supply chain practices in a company. an environmental monitoring system (EMS) supports GSCM at all levels in an organization and that type of efficient IT systems can increase the supply chain performance (Alemayehu, M. (2008); Ravi & Shankar, n.d.). Wooi & Zailani, (2010) proposed that the technical barrier is a key barrier for manufacturing companies in the implementation of green supply chain management practices. Govindan et al., (2014); Jayant & Azhar, (2014); Muduli & Barve (2011) studies also represent that the technological barriers are critical barriers among all other barrier categories to the implementation of green practices in the organizational supply chain. Some authors include the shortage of the latest

technology processes, applications, resources, and experience, worry of failure, complex to designing of GSCM, and a lot of as a part of the technological barrier in implementing GSCM (Deepak et al., 2014; Govindan et al., 2014; Parmar 2016). Every green practice executed in an organization needs varied technologies and for corporations to unendingly improve their setting performance in their offer chain, they have to incorporate technological characteristics Sarkis, J. (2009). An example is to own info systems like electronic data interchange that's suited and developed from a greening perspective. As reported by Mudgal et al., (2010) every firm should focus on developing and updating themselves and their employees in the firm about the new trends in technological advancements in GSCM implementation.

At the first stage, successful GSCM faces the barrier of acceptive advanced technology because of high value. Also, the companies normally feel fear of failure in implementing GSCM as they think about suffering from non-monetary losses or some kind of product failure also leads to the loss of competitive advantages of the company (Govindan et al., 2014; Perron 2005.) Above mentioned research articles represent that technology is also one of the barriers in the adoption of GSCM practices. If the organizations focus on the technical barriers they are facing, then they may support applying green practices to their supply chain by overcoming those barriers.

Hypothesis 2: There is a significant impact of technological barriers on implementation of GSCM practices.

3. Methodology

This research study is conducted using a quantitative approach. For achieving research objectives, this study is conducted by following the hypothetico-deductive research approach with a cross-sectional design.

3.1 Data Collection and Measures

Primary data was collected by sharing a survey-based questionnaire to obtain quantitative data to statistically test the hypotheses. The survey was conducted using an online questionnaire in the form of a google form and data were gathered from the food and beverage manufacturing companies in Colombo district, Sri Lanka. The section A of the questionnaire included questions regarding

demographic profile of the respondents. Under this section, data regarding structure variables (gender, age, etc.) was gathered. Section A has questions with both nominal scale and ordinal scale. Section B is divided into three parts (organizational barriers, technological barriers and implementation of GCSM practices). This section gathered data regarding explicative variables by only using Likert scale questions. The five-point Likert scale has used which allow the respondents to indicate how strongly they agree or disagree with the given statement. The range is “strongly disagree”, “disagree”, “neutral”, and “agree”. Secondary data were gathered from literature in the forms of journals, books, websites, and previous research articles relevant to the field of this research topic. Databases like Emerald Insight were referred to find out previous academic works that were done in the same area of study.

3.2 Participants

According to (CSE - Colombo Stock Exchange), there are fifty firms in Sri Lankan food, beverage, and tobacco sector (August, 2022). For this study, food and beverage industry was selected since it is one of the main drivers of growth of the factory industry in Sri Lanka (Sriskandarajah & Ariyawardana, 2009). According to (IIP_20220609E), food and beverage industry has the highest IIP (Index of Industrial Production) in the year 2021. Considering that, I selected food and beverage companies for this study. The Western Province of Sri Lanka accounts for nearly 78% of the value of output generated by the food and beverage industry (Sriskandarajah & Ariyawardana, 2009). Therefore, the western province was selected and, considering the convenience of collection of data, Colombo district was selected as study area of this research. I used several steps for selecting the sample. Firstly, the subgroup of companies in western province is selected from total population. Then Colombo district is selected from that initial subgroup of Western provinces. Finally, I selected individual companies within Colombo District using convenience sampling method.

3.3. Reliability of Measures

Table 1: Summary of reliability analysis

Variable	Number of indicators	Source	Cronbach's Alpha	Conclusion
Organizational barriers	5	(Ong & Rui, 2017) (Govindan et al., 2014)	0.729	Reliable
Technological barriers	5	(Ong & Rui, 2017) (Wooi & Zailani, 2010)	0.645	Reliable
Implementation of GSCM	5	(Ong & Rui, 2017)	0.734	Reliable

(Source: Developed by Author)

Reliability analysis is used to confirm the consistency of the result of the research study to check the internal consistency of the items used in the questionnaire. For the measurement of reliability, Cronbach's alpha is the most widely used method. Here, the alpha coefficient is varied between 1 and 0. Normally, if it is less than 0.6, it is viewed as having poor reliability (Sekaran, U., & Bougie, R., 2016). All three values are higher than 0.6. That means all the variables in this research study are reliable. Therefore, all measuring aspects are holding together to measure each variable.

4. Data Analysis and Results

This chapter presents the results of the online-based questionnaire survey gathered from 135 respondents in food and beverage manufacturing organizations in Colombo district, Sri Lanka. All the results are analyzed by using SPSS (Statistical Package for Social Science) software.

4.1 Data Analysis for Descriptive Statistics

Descriptive statistics measures which are utilized to describe and to summarize a set of data. This descriptive analysis is normally used only to organize the data at hand in a controllable and understandable manner to explain the characteristics of the responses of the questionnaire (Trochim, 2020). Under this part, demographic data gathered by the questionnaire have been analyzed.

4.1.1 Frequency Analysis

Simply the frequency means the number of times a particular aspect takes place. According to Research Optimus, 2020 the analytical method of statistically analyzing the way of recurring aspects with the usage of techniques is known as the frequency analysis. This is an analytical branch that coming under descriptive statistical analysis. With this frequency analysis, frequency of all responses has been summarized into tables with the percentages of each aspect.

Table 2: Summary of Frequency Analysis

Item	Percentage
Gender	
Male	72.6%
Female	27.4 %
Age	
18 - 25	36.3%
26 -35	50.4%
36 - 45	9.6 %
46 - 55	3.0%
Above 55	0.7%
Level of occupation in the company	
Junior Executive	30.4%
Executive	28.1%
Senior Executive	23.0%
Manager	13.3%
Above manager's position	5.2%
Service period in the company	
Less than 1 year	27.4%
1-5 years	57.0%
6-10 years	9.6%
11-15 years	3.7%
16 years or more	2.2%
Less than 1 year	27.4%

Is there currently an Environmental Management system is placed in your company?	
Yes	15.6%
No	25.2%
In progress	59.3%
If yes, what is the company's official certification?	
ISO 14001	12.6%
None	87.4%

(Source: Developed by Author)

4.1.2 Cross Tabulation

Crosstabulation is a technique that can be utilized to quantitatively analyze the relationships between multiple variables. These are also called as contingency tables or as cross tables. These are normally used to examine the hidden relationships between the data gathered that are not readily shown. The majority of the respondents are males who represent the age group of 26-35. That percentage is 37.8% of the total sample size. Moreover, the majority of the respondents are males who represent the junior executive level. The percentage is 20%.

4.2 Data Analysis for Inferential Statistics

4.2.1 Correlation Analysis

The correlation coefficient can be a positive value, or a negative value and it ranges from -1 to +1. Here, the magnitude of the correlation shows the strength of a particular relationship, and the sign of the correlation coefficient shows the direction of the relationship.

Table 3: Rules of Thumb about Pearson Correlation Coefficient

Coefficient Range	Strength of Association
± 0.91 to ± 1.00	Very strong
± 0.71 to ± 0.90	High
±0.41 to ± 0.70	Moderate

± 0.21 to ± 0.40	Small but definite relationship
± 0.01 to ± 0.20	Slight, almost negligible

(Source: Hair, J., Wolfinbarger, M., Bush, R., & Ortinau, D. (2012))

By assuming the data set is normal, Pearson's correlation is applied for this analysis. According to the correlation analysis, Organizational barriers and implementation of GSCM practices is having a relationship of 0.394 which is a Small but definite relationship. Technological barriers and implementation of GSCM practices is having a relationship of 0.552 which is a moderate relationship.

4.2.2. Regression and Hypotheses Testing

In this section, multiple linear regression has been used to interpret the relationship between independent variables (organizational barriers and technological barriers) and dependent variable (implementation of GSCM practices). Hypothesis testing is also a statistical technique that use to test hypotheses that are formulated in the study. By using the ANOVA table, we can check whether the model is significant or not. ANOVA table is given below. The model of this research study is as follows.

Implementation of GSCM = b_1 Organizational barriers + b_2 Technological barriers + B_0

H₀: None of the regressors are significant. (Model is not significant)

H₁: At least one regressor is significant (Model is significant)

P value approach: P value is 0.000 and, significance level (Alpha / α) is 0.05. According to the decision rule; If p-value is Less than or equal Alpha = (P value $\leq \alpha$) = Reject H₀ and, if p-value is more than Alpha = (P value $> \alpha$) = Do not Reject H₀. Therefore, H₀ is rejected. At 5% of significance there is sufficient evidence to reject H₀. Therefore, we can claim that the model is significant. This means, together all two independent variables (organizational barriers and technological barriers) are influencing the dependent variable (implementation of GSCM practices).

According to the model summary of this study, 32.4% of variability of dependent variable (implementation of GSCM practices) is represented by Organizational barriers and technological barriers. This means there are other barriers that are

affecting on implementation of GSCM practices. This study only examined main two barriers which affect to implementation of GSCM practices. Following evidence from literature show that, other than organizational and technological barriers, there are many other barriers which are impacting on implementation of GSCM.

Wooi & Zailani, 2010 presents that the resource barrier is one of the barriers that impact on GSCM practices. Lack of government support and lack of resources are also some barriers which are under this matter (El-Beheiry et al., 2013). According to Hebaz & Oulfarsi, 2021 financial barriers and cost related factors are also have some kind of impact on implementation of GSCM practices. Moreover, capacity constraints and poor legislation can be impact on this dependent variable (Muduli et al., 2013). Likewise, although most of the articles presents that organizational barriers and technological barriers impact on GSCM implementation as described in literature review chapter, there are many other barriers which are impacting on this dependent variable. But the case is, since there are lots of other barriers, if we consider the impact of each of their impact on GSCM it can be lower than organizational barriers and technological barriers. Therefore, we can say the variability of the dependent variable which is implementation of GSCM practices will be highly presented by organizational and technological barriers rather than the other barriers.

By using the coefficient table, we can check whether the individual variables are significant or not with hypotheses testing.

$$\text{Implementation of GSCM} = 0.170 \text{ Organizational barriers} + 0.464 \text{ Technological barriers} + 1.870$$

Decision rule:

If p-value is Less than or equal Alpha = (P value \leq α) = Reject H_0 and,
 If p-value is more than Alpha = (P value $>$ α) = Do not Reject H_0

Table 4: Summary of regression and hypotheses testing

Variable	Coefficient	P value	Status	Decision	Meaning
Organizational barriers	0.170	0.017	P value \leq Alpha	Reject H_0	There is a significant impact of organizational barriers on

					implementation of GSCM practices.
Technological barriers	0.464	0.000	P value \leq Alpha	Reject H_0	There is a significant impact of technological barriers on implementation of GSCM practices.

(Source: Developed by author)

5. Discussion of the Findings

RQ 1: Whether there is an impact of organizational barriers on implementing GSCM practices in food and beverage manufacturing firms in Sri Lanka?

In literature review chapter, it was theorized that there is an impact of organizational barriers on the implementation of GSCM practices. Lack of support, and leadership from the highest management and other organizational barriers can considerably impact the implementation of green practices (Govindan et al., 2014; Ojo, Mbowe, & Akinlabi, (2014). Ong & Rui, 2017 have stated that owners' or management teams' commitment and organizational culture will be organizational barrier, and this has the potential to impact the adoption of GSCM. This is supported by the results of the analysis of this study. With Pearson's correlation values of 0.394 and a significance value of 0.017 which is less than 0.05, it was concluded that organizational barriers have a significant impact on implementation of GSCM practices in food and beverage manufacturing firms in Sri Lanka.

RQ 2: Whether there is an impact of technological barriers on implementing GSCM practices in food and beverage manufacturing firms in Sri Lanka?

In literature review chapter, it was theorized that there is an impact of technological barriers on implementation of GSCM practices. Deepak et al., 2014 have mentioned that the lack of new technological processes, applications, and more as part of the technological barrier, impact to implementing GSCM. Technological barrier is a key barrier for implementation of green supply chain management practices. (Govindan et al., 2014; Jayant & Azhar, 2014). This is supported by the

results of the analysis of this study. With Pearson's correlation values of 0.552 and significance value of 0.000 which is less than 0.05, it was concluded that technological barriers have a significant impact on implementation of GSCM practices in food and beverage manufacturing firms in Sri Lanka.

Moreover, the alternative hypotheses developed for this study were accepted by rejecting the null hypotheses because both independent variables have significance values which are lower than 0.05. The outputs of the research study present that there is a significant impact of organizational barriers and technological barriers on implementation of green supply chain management practices in food and beverage manufacturing firms in Sri Lanka.

6. Conclusion and Implications of the Study

With the globalization and many other factors, supply chains of the organizations have resulted with some kind of issues related to environmental aspect. Therefore, proper environmental management system is important. Specially food and beverage manufacturing companies have a significant role in this area with the reasons described under first chapter. Therefore, they have to consider on implementing GSCM in their organizations. But when considering the Sri Lankan context most of the companies are facing some barriers when they are implementing GSCM practices. In order to overcome these barriers, it is necessary to understand what the most impactful barriers are. This study examined the impact of organizational barriers and technological barriers on implementation of GSCM practices in food and beverage manufacturing organizations in Colombo district. According to the findings of the study, there is a significant impact of organizational and technological barriers on GSCM practices in food and beverage manufacturing firms in Sri Lanka.

There are some limitations regarding this study. The main limitations are time limitation and travel restriction. This study is only focusing on two variables which impact of implementation of green supply chain management practices. Although there are lots of other barriers which can impact on the dependent variable (according to the literature as described in chapter 4), organizational barriers and technological barriers can be considered as significant barriers which impact on implementation of GSCM practices. Therefore, considering the time limitation this study has only examined those two barriers. The researcher had to overlook other

barriers, however the time constraint affected in selecting only two independent variables and selecting a smaller sample. Furthermore, this study has only used online based questionnaire rather than physical distribution of questionnaire, to gather primary data considering travel restrictions. Because of that, the researcher has used those responses collected by sharing an online questionnaire for the analysis of primary data. Those are the limitations which are mostly related to data collection and other areas of the research study.

Although the hypotheses developed under the study are accepted, the researcher is identified some areas for further studies. As describe above, there are some limitations because of the time constraint and travel restrictions faced by the researcher and unable to examine other barriers which can be impact of the implementation of GSCM practices. Future research can cover more than two independent variables and, they can examine the impact of other barriers as mentioned in chapter 4. Also, future research can be done in other sectors in Sri Lankan context. Moreover, they can use physical data collecting method rather than using an online based questionnaire. Likewise, further studies can be conducted in future in this growing field of study is to be recommended to give more improvements in operations of organizations in Sri Lanka.

6.1 Recommendations

The results of this study concluded that organizational barriers and technological barriers has a significant impact on implementation of green supply chain management practices. Therefore, the food and beverage manufacturing companies in Sri Lanka should considered on those areas and get actions to overcome those barriers when implementing GSCM practices in their organizations. While conducting this study the researcher understood that most of the respondents delight about implementing GSCM practices in their organizations and they have a proper knowledge about the advantages they can gathered by implementing green supply chain management in their firms. This characteristic can be taken into consideration when implementing GSCM and because of that, they can get the support of employees to implement GSCM practices in their organizations. Therefore, the recommendation to the food and beverage firms to get the actions to overcome organizational and technological barriers and implement green supply chain management practices in their organizations to

achieve more advantages in Sri Lankan marketplace as well as in global marketplace.

Moreover, Policymakers are advised to provide insights into the current progress of green practices of manufacturing firms and the way of overcoming organizational and technological barriers. With these improvements, Sri Lankan food and beverage manufacturing companies get the ability to overcome organizational and technological barriers and implement green supply chain management practices in their organizations.

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Why Don't Migrant Workers Send Money to their Folks Back in Sri Lanka Anymore?

Sooriyaarachchi, T¹

¹*NSBM Green University, Sri Lanka.*

*tharani.d@nsbm.ac.lk*¹

Abstract

The Sri Lankan economy is heavily dependent on migrant remittances as an economic survival strategy. As per the Central Bank Flow of Foreign Remittances to Sri Lanka Report for the period 2015 – 2022, there has been a drastic decrease in the remittances from Sri Lankan expatriates during the period 2020 -2022 which has resulted in negative economic consequences to the country. This paper aims to find out the main motivating factors which drive Sri Lankan migrant remittances and the main reasons behind the decline in migrant remittances to Sri Lanka. Accordingly, 25 Sri Lankan migrants employed in various foreign nations were interviewed to identify the main reasons for the decline in migrant remittances. Based on the research findings it was established that migrant losing ties with the family back home, the number of dependent family members of the migrant back in Sri Lanka decreasing with time, the home currency depreciation which results in the amount of foreign currency required to finance the needs of the family members back home decreasing, lack of favorable policies for foreign remittances, and the lack of trust in the Sri Lankan government are the main reasons why Sri Lankan migrants have reduced their remittances to Sri Lanka.

Keywords: Migrant Remittances, Self Interest, Pure-Altruism, Tempered-Altruism

1. Introduction

Feld (2022) argues that migrant remittances contribute to an economy by improving the standard of living of family members back home, reduction in poverty, reduction in income inequalities, and improving the health and education of family members back home. Temporary labour migration started in Sri Lanka in the year 1977 and has become a predominant livelihood strategy for majority of the Sri Lankan households since then. During the period from 2015- 2020 there has been a continuous decrease in the number of Sri Lankans migrating for work purposes. However, in the last two years the country has experienced a drastic increase in the number of Sri Lankans migrating as both skilled and unskilled labour for various opportunities as depicted in Figure 1.

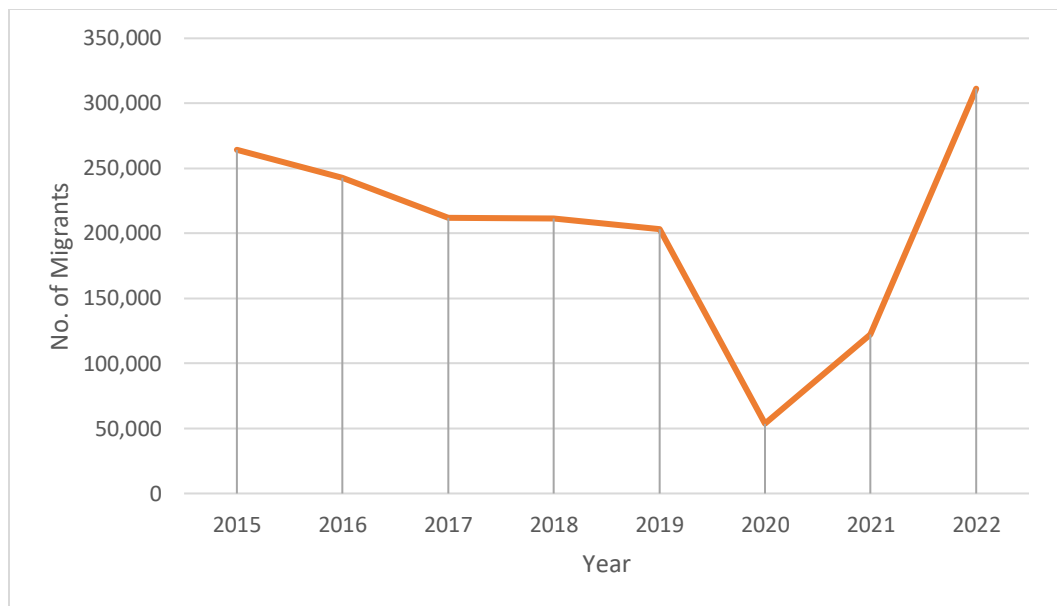


Figure 1: No. of Sri Lankans migrating as foreign workers
(Source: Sri Lanka Bureau of Foreign Employment (2023))

As per Withers et al. (2021), the Sri Lankan economy hinges on remittances from Sri Lankan expatriates as a survival strategy. Foreign worker remittances have been identified as a main source of income for Sri Lankan households as majority of Sri Lankan households have members who are migrant workers. Further, as a developing nation, emigrant remittances have become vital to Sri Lanka to finance

the balance of payment and trade deficit of Sri Lanka (Withers, 2019a; Dharmadasa & Karunaratna, 2022).

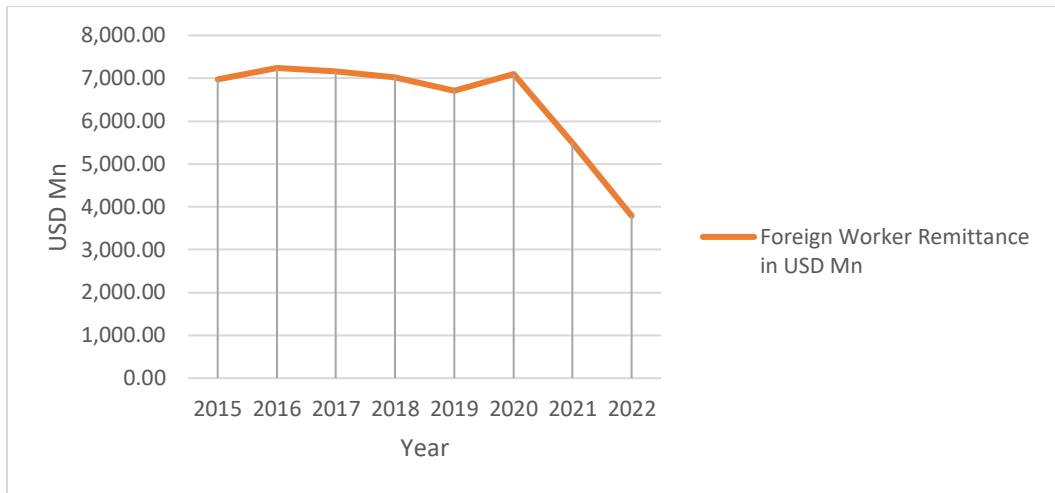


Figure 2: Foreign Worker Remittances (USD Mn)

(Source: Central Bank Flow of Foreign Remittances to Sri Lanka Report for the period 2015 – 2022 (2023))

With the year-on-year addition to the number of Sri Lankans employed in foreign countries, it is generally expected that the foreign remittances from the migrant workers will improve annually. However, emigrant remittances have drastically declined during the recent years despite the increase in the number of Sri Lankans becoming international worker emigrants as depicted in Figure 2.

Hence, it was identified that it's worthwhile to examine the reasons for the decline in the migrant worker remittances to Sri Lanka.

Thus, this paper primarily focusses on investigating the influential factors which drives migrant remittances to Sri Lanka and to identify the influential factors which has affected the reduction in emigrants' remittances to Sri Lanka.

This paper contributes to the salient literature through identifying the prominent influencing factors that motivate migrant remittances to Sri Lanka and identifying the reasons for decay in migrant remittances to Sri Lanka. These insights from the study could be used in developing mechanisms to safeguard and promote Sri Lankan migrant remittances.

2. Literature Review

2.1 Migrant Remittances and its Impact on Developing Nations

Migrant remittances have been defined by the salient literature as remittances made by individuals and families who have moved from their origins in seek of better economic conditions back to their home countries (Dharmadasa & Karunarathna, 2022; Withers et al., 2021; and Bouoiyour & Miftah, 2015; Ratha, 2003).

As per the World Bank (2020 a) migrant remittances is the largest source of foreign capital flow into most low and middle-income economies and South Asian economies have experienced the biggest increase in the migrant remittances since the new millennium.

Further, the salient literature has identified that migrant remittances even when not invested could have a multiplier effect on the economy through increased consumption of goods and services by the family members of the migrants who are back home in the home countries (Lowell & de la Garza, 2000; OECD, 2006).

2.2 Migrant Worker Remittances and Sri Lanka

As per the salient literature temporary labor migration from Sri Lanka to other nations became a dominant livelihood strategy for most Sri Lankan households with the introduction of the open economy system in the year 1997 (Withers, 2019a; Dharmadasa & Karunarathna, 2022).

Withers et al. (2021) suggests that Sri Lanka is a nation which is profoundly dependent on temporary labor migration as an economic survival strategy and migrant remittances surpass the combined foreign currency earnings of the largest two export industries (tea and garment manufacturing) of the country.

The prominent authors in the area have further established that for the last two decades migrant remittances have become the largest source of foreign currency inflow in the country's Balance of Payments surpassing Official Development Assistances, Foreign Direct Investments and Foreign Aids (Arunathilake et al., 2010).

The literature has further identified that migrant worker remittances positively impact the Sri Lankan economy through increasing household income levels, reducing poverty, reducing inequalities in income distribution, increasing household consumptions, and increasing household savings and investments (Karunaratne, 2008; Dharmadasa et al., 2018; Dharmadasa & Karunaratna, 2022).

2.3 Factors Influencing Migrant Worker Remittances.

The prevailing literature establishes that there is a plethora of various factors which motivates migrant workers to remit money back to the home country and these various motivators could be categorized and studied under three theories used to explain the individual motivators which encourage migrant workers to remit money back home. The three categories are namely self-interest behavior, pure altruistic behavior, and tempered altruistic behavior/ enlightened self-interest behavior (Bouoiyour & Miftah, 2015; Humphries et al, 2009; Melkonyan & Grigorian 2008; Lucas & Stark, 1985).

2.3.1 Self-Interest

The salient literature has identified that some migrants remit money to their home countries to maximize their self-interest. Literature identifies self-interest as anything that is done by an individual to maximize personal gains . The intention of receiving an inheritance from family members back home, the intention of gaining privileges from the government of the home country, increasing the accumulated wealth of the individual in the home country, and maintaining the social status in the home country have been identified as the main self-interest factors which influence migrants to remit money to their home countries by the existing literature (Lucas & Stark, 1985; Dustmann & Kirchkamp, 2002; Sana & Massey, 2005; and Amuedo-Dorantes & Pozo, 2006b).

2.3.2 Pure Altruistic

In contrast, several prominent researchers suggest that there are migrants who remit with pure-altruistic motives where the interest of other parties is prioritized over the needs of the migrant's self. The salient literature defines pure altruistic behavior of individuals as individuals prioritizing the needs of the others, usually their close family, over their personal needs. The intention of improving the well-being of family members back home through helping the family members with

their consumption, the intention of relaxing the capital constraints faced by the family members, and supporting the livelihood of the family members have been identified as the main pure-altruistic motivators which encourage migrants to remit money back home (Stark & Lucas, 1985; Durand et al., 1996; Poirine, 1997; and Woodruff & Zenteno, 2007).

2.3.3 Tempered Altruistic

Stark & Lucas (1988) established that both self-interest and pure altruism is inadequate to explain the phenomenon of migrant remittances as sometimes migrants remit money motivated by mutually beneficial agreements between the migrant and family back home. Salient literature has identified repayment of principal amounts invested by the family members on the education of the migrant, repayment for family members for looking after the assets of the migrant back home, and repayment of principal amounts invested by the family back home on migration of the migrant (Melkonyan & Grigorian 2008; Lucas & Stark, 1985).

2.4 Decline in Migrant Remittances

The significant literature in the area has identified that family reunification in foreign countries (migrant's family migrating to the same nation to reunite with the migrant worker), migrant losing ties with the family back home, the number of dependent family members back home decreasing, the home currency depreciation which results in the amount of foreign currency required to finance the needs of the family members back home decreasing, initial savings and investment targets of family back home declining, commitments back home declining, lack of favorable policies for foreign remittances, increase in the household income of the family back home, recession, and decline in migrant's willingness to remit to be the main reasons for decline in migrant remittances. (Simati & Gibson, 1998; Hunte, 2004; Cohen, 2011).

Further, the salient literature connects the aforementioned reasons for remittance decay with self-interest, pure altruistic, and tempered altruistic behavior of migrants where personal benefits of remittances decreasing are suggested to be the most prominent reason for the decline in migrant remittances.

3. Research Methods

A qualitative research method was employed where 25 in-depth online semi-structured interviews were carried out with Sri Lankan migrants employed in various geographical locations. The semi-structured interview guideline (Appendix 1) was based on the self-interest, pure altruistic, and tempered altruistic behavior theories and the participants of the study were selected using convenience sampling. The participant details are given below in Table 1.

Table 2: Participant Details

Person	Age (Years)	Gender	Country of Temporary Residence	Years as a migrant worker	Work Visa Category	Industry
A	30	Male	United Arab Emirates	4 Years	Professional	Construction
B	30	Male	Australia	5 Years	Unskilled worker	Logistics
C	35	Male	Canada	8 Years	Professional	Banking and Finance
D	41	Female	Australia	20 Years	Professional	Secondary Education
E	29	Male	United Kingdom	3 Years	Skilled worker	Health
F	50	Female	Australia	15 Years	Professional	Logistics
G	45	Female	Singapore	12 Years	Professional	IT (Software)

H	31	Male	United Arab Emirates	8 Years	Skilled worker	Banking and Finance
I	36	Female	United Kingdom	7 Years	Skilled worker	Education
J	27	Male	United Arab Emirates	2 Years	Professional	Banking and Finance
K	32	Male	Australia	6 Years	Professional	Banking and Finance
L	35	Male	United Kingdom	13 Years	Skilled worker	Retail
M	45	Female	Finland	20 Years	Professional	Primary Education
N	32	Female	Malaysia	4 Years	Professional	Banking and Finance
O	43	Male	Sweden	11 Years	Professional	IT (Cyber security)
P	26	Male	China	2 Years	Skilled worker	Hotel and Tourism
Q	32	Male	Maldives	8 Years	Unskilled worker	Hotel and Tourism

R	29	Female	United Kingdom	3 Years	Skilled worker	Fast Food
S	40	Female	United Kingdom	6 Years	Professional	Tertiary Education
T	33	Female	Japan	3 Years	Professional	Manufacturing
U	38	Male	United Kingdom	10 Years	Professional	Legal services
V	41	Male	USA	20 Years	Professional	Construction
W	29	Female	Poland	4 Years	Skilled worker	Child Care
X	30	Male	Indonesia	3 Years	Professional	Manufacturing
Y	35	Male	Switzerland	10 Years	Skilled worker	Adult Care Giver

The collected data was then subjected to a thematic analysis to identify the common themes raised by the interview participants.

4. Findings and Discussion

4.1 Migrant Remittances

24 interviewees had family members (parents, spouses, children, siblings or other relatives) back in Sri Lanka and 24 interviewees confirmed that they remit money back to Sri Lanka. 12 interviewees stated that money is remitted on a monthly basis, 3 interviewees stated that money is remitted on a quarterly basis, and 1

interviewee confirmed that money is remitted annually as a bulk, whereas 8 migrants confirmed that they do not have a designated time frame in remitting money back to Sri Lanka.

Further, firms specialized in money transfers, online banking transfers, and informal undiyal channels were stated as the most common remittance channels used by the interviewed migrants to remit money back to Sri Lanka. In addition, it was identified that during the past year there has been a shift from formal channels to informal channels due to the lack of trust on the Sri Lankan government.

4.2 Why do Sri Lankan Migrants Remit Money?

The factors which motivate Sri Lankan migrants from remitting money back to Sri Lanka are explored under the themes of self-interest behavior, pure altruistic behavior, and tempered altruistic behavior of migrants.

4.2.1 Self- Interest Behavior

Out of the 24 migrants who remit money to Sri Lanka 9 admitted that there was a self-interest behind their remittances.

Several migrants admitted that the main purpose behind their remittances is to maintain a good relationship with their families back home so that they would inherit the hereditary properties. A few extracted statements are given below.

“I remit money to maintain healthy relationships with my parents and grandparents so that I could inherit the ancestral home and other ancestral properties that have been passed down for generations” [E].

“I remit money not only to my parents but my aunts and uncles who do not have any money. I am their favorite child out of all my siblings/ cousins and many of them have already gifted their properties to me” [T].

Other self-interested motives which motivate migrant employees to remit money back home were identified as accumulating assets in the home country and gaining benefits from the government. A few extracted statements are given below.

“I have instructed my sister back home in Sri Lanka to invest 25% of the money I remit in my name. She has acquired shares, and other properties back in Sri Lanka

on behalf of me. I keep on sending her money so that she could invest and maintain a good portfolio of investments on behalf of me” [S].

“I remit money back to Sri Lanka only through proper channels advocated by the Sri Lankan Government because I want to experience special benefits given by the Sri Lankan government such as enhanced duty free concessions and low interest bank loans” [H].

These findings are backed up by the salient literature as it has been identified that some migrants remit money to their home countries to inherit properties from family members back home, gain privileges from the government of the home country, and increase the accumulated wealth of the individual in the home country (Stark & Lucas, 1988; Dustmann & Kirchkamp, 2002; Sana & Massey, 2005; and Amuedo-Dorantes & Pozo, 2006b).

4.2.2 Pure Altruistic Factors

5 out of the 24 migrants that remit money back home to Sri Lanka admitted to having a pure altruistic motivating factor which compels them to remit money.

The extracted statements given below demonstrate how the need to help out family and friends back home results in migrant remittances.

“I’m the eldest in my family and all my other siblings are still schooling. My father is bed ridden and my mother is a housemaid. I send around 80% of my salary back to Sri Lanka to help out my family” [P].

“I’ m married and my wife and kids are back home in Sri Lanka. My wife is unemployed as she is looking after the entire family. I send money to fulfil their consumption needs” [V].

Helping out family members to support their livelihoods, and sponsoring the consumption needs of the family members were identified as the main pure altruistic factors which motivate migrants to remit money back to Sri Lanka. This is in agreement with the existing body of knowledge on the pure altruistic motivators behind migrant remittances (Stark & Lucas, 1988; Cox et al., 1998; Durand et al., 1996; Poirine, 1997; and Woodruff and Zenteno, 2007).

4.2.3 Tempered Altruistic Factors

The majority of the remitting migrants (10 out of 24) admitted that their motives behind remittances are not either purely self-interest based or purely based on altruistic behavior but rather a combination of the two where remittances are made when there is a win-win situation for both the migrants and their families back home.

Given below are three statements which elaborate the tempered altruistic motivators behind migrant remittances.

“Hailing from a middle-class family my parents had no money to send us all abroad for our higher studies. But when I could not get selected to state university, they somehow managed to send me abroad after taking a long-term bank loan. After I completed the degree, I stayed back and started working. Now I remit money because I think I should repay the amounts they have settled as loan and interest” [D].

“My sister is looking after my elderly parents and managing all my properties back in Sri Lanka which leaves her no time to go to work and earn for herself. So, I send her money every month to fund her needs” [O].

The two tempered altruistic motivators of remittances identified are repayment of principal amounts invested by the family members on the education of the migrant, repayment for family members for looking after the assets of the migrant back home which are supported by the salient literature (Melkonyan & Grigorian 2008; Lucas & Stark, 1995).

4.3 Why Don't Sri Lankan Migrants Remit Money Back to Sri Lanka Anymore?

All the 24 migrants who remit money back to Sri Lanka admitted that there has been a reduction in the frequency of remittances as well as the amount remitted during the past year. The reasons for the decline in the migrant remittances are elaborated through the below statements.

“I'm unmarried and it has been 20 years since I left Sri Lanka. I remitted money to support my parents and my elder brother who was disabled and under institutionalized care after the demise of my parents. My brother also left us last

year. I don't remit money anymore as I have no family in Sri Lanka any longer" [M].

"I remit money to support my wife and kids at home to meet their consumption needs. With the depreciation of the Rupee, I now have to remit a lesser amount in Swiss Franc. This is why I have reduced the amount that I remit monthly" [Y].

"I feel like the Sri Lankan governments have no respect towards us migrant workers and they have not done anything to promote the welfare of our families back home or given us any special benefits which are adequate. On top of that, I don't trust the Sri Lankan government to spend the dollars we send back to Sri Lanka responsibly. I am not sending money back to Sri Lanka till the Sri Lankan government comes up with better benefits to migrants and their families and improves their accountability on the dollar inflow and outflow of the country" [D].

"I always used formal remittance channels to send money to my wife. But I shifted to undiyal method during the year to show my objection to the corrupt government. I no longer trust the Sri Lankan government. I think all the Sri Lankans abroad should stop sending foreign currency to Sri Lanka to show our resistance to the government and use undiyal method to send money back to our families" [V].

Further, the individual who does not remit money back to Sri Lanka stated that he has never remitted money since he left the country due to the fact that his family chased him away after he disclosed his sexuality to the family. He has been estranged from the family and has cut all ties with them for over a decade and has never remitted money.

The study identified that the migrant losing ties with the family back home, the number of dependent family members back home decreasing, the home currency depreciation which results in the amount of foreign currency required to finance the needs of the family members back home decreasing, lack of favorable policies for foreign remittances, and the lack of trust in the Sri Lankan government as reasons for the decline in migrant remittances.

The salient literature supports migrant losing ties with the family back home, the number of dependent family members back home decreasing, the home currency depreciation which results in the amount of foreign currency required to finance the needs of the family members back home decreasing, and lack of favorable

policies for foreign remittances as reasons for remittance decay (Brown, 1998; Hunte, 2004; Cohen, 2011).

The lack of trust in government which was highlighted by 9 migrants has not been specifically established as a main reason for remittance decay in the salient literature. Hence, the lack of trust can be subjected to future research and if verified in future research could be recognized as a reason for the decay in migrant remittances.

According to the findings of the study, it can be observed that Sri Lankan migrants remit money back to Sri Lanka either due to a self-interest motive, pure altruistic motive, or a tempered altruistic motive. It can be observed that most Sri Lankans remit money with a tempered altruistic motive and would continue their remittances as long as there is a win-win situation for both the migrant and the family back home.

The reasons for the current decline in migrant remittances were established as migrants losing ties with the family back home, the number of dependent family members back home decreasing, the home currency depreciation which results in the amount of foreign currency required to finance the needs of the family members back home decreasing, lack of favorable policies for foreign remittances, and the lack of trust in the Sri Lankan government. The lack of trust in the home country's government is a novel finding from this study and this could be added to the existing body of knowledge after further verification.

5. Conclusion

The research is initiated to identify the influential factors which motivate Sri Lankan migrants to remit money back to Sri Lanka and identify the prominent reasons for the drastic decrease in the remittances from the Sri Lankan expatriated during the period 2020 – 2022. Sri Lankan economy being heavily dependent on the flow of migrant remittances as an economic survival it is crucial for the Sri Lankan government to understand the reasons for the decline in remittances from Sri Lankan expatriates and develop economic solutions to improve the flow of foreign remittances from Sri Lankan migrant workers.

Accordingly, 25 Sri Lankan migrants employed in various foreign nations were interviewed to identify the main reasons for decline in migrant remittances. Based

on the research findings it was established that the migrant losing ties with the family back home, the number of dependent family members of the migrant back in Sri Lanka decreasing with time, the home currency depreciation which results in the amount of foreign currency required to finance the needs of the family members back home decreasing, lack of favorable policies for foreign remittances, and the lack of trust in the Sri Lankan government are the main reasons why Sri Lankan migrants have reduced their remittances to Sri Lanka. All the research findings except the lack of trust in the Sri Lankan government are supported by the salient body of knowledge and the lack of trust in the home country government is a novel finding from this study and could be added to the existing body of knowledge after further verification through future studies.

The research findings could be used by the Sri Lankan government in designing special incentive schemes to encourage Sri Lankan migrant workers to remit more to Sri Lanka, devise strategies to maintain strong familial bonds with the expatriates who no longer have any family members left in Sri Lanka, and to develop strategies to improve the trust in the Sri Lankan government.

This research was limited to 25 Sri Lankan migrants and the results may not be generalized to all the Sri Lankan migrants. Future research could be conducted based on a broader sample size. Further, future studies could be conducted to test the role of government trust in attracting migrant remittances to Sri Lanka.

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Estimating the Marginal Productivity of Roads and Vehicles in Sri Lanka

Shaja M.M.M.¹, Sobika M.², Bandara Y.M.³

¹*NSBM Green University, Sri Lanka.*
shaja.m@nsbm.ac.lk¹

²*University of Moratuwa, Sri Lanka*
sobika009@gmail.com²

³*Edinburge Napier University, United Kingdom*
y.bandara@napier.ac.uk³

Abstract

Roads are a vital component of the transportation system, and Sri Lanka is experiencing rapid development in all classes of road networks. The introduction of expressways has been one of the recent additions to Sri Lanka's road network. The Road Development Authority has plans to extend highways to cover the entire island in the near future. Road networks play a significant role in national development and contribute to the overall performance and social functioning of communities. They enhance mobility, lifting people out of isolation and poverty, which explains the increasing preference for road usage due to the various benefits it offers. This study focuses on Sri Lankan highways, particularly three types: A class, B class, and E class. The research aims to estimate the marginal productivity of roads in Sri Lanka while considering provincial GDP, vehicle stock, and road stock. Additionally, the study aims to identify the long-term responses of GDP to potential increments. Specifically, the selected A and B class roads connect major districts in Sri Lanka and serve transportation needs in sectors such as agriculture, industry, and services. The study covers GDP, road stock, and vehicle stock from 2005 to 2020 across the country's nine provinces. Data for the research was collected from the Central Bank of Sri Lanka (CBSL), Road Development Authority – Sri Lanka, and Ministry of Transport and Highways – Sri Lanka, providing relevant and accurate secondary data. The collected data were analyzed against various variables to achieve the research objectives. Regression analysis was utilized to identify the relationships and estimate the impact of variables.

Furthermore, GDP values were estimated by categorizing vehicles and roads into several types. Regression analysis offers insights into how changes in variables impact the unit of GDP.

Keywords: Marginal Productivity, Highways, Road network in Sri Lanka, Gross Domestic Product.

1. Introduction

Roads serve as the primary means of connecting people in different locations, making them an integral part of human life. The connectivity provided by roads is a crucial determinant of people's well-being and quality of life. Improved accessibility through roads allows individuals to actively participate in their daily activities. When compared to other available modes of transportation, road networks are more flexible and convenient for people. Road transport vehicles can easily pick up and drop off people and goods anywhere (Agatz et al., 2012).

Throughout human civilization and technological advancements, roads have evolved from small trails to controlled access routes. The rise of international trade and the export of raw materials such as rubber, coffee, tea, and coconut has necessitated the rapid development of efficient road transport in Sri Lanka. These roads enable effective transportation to reach Sri Lanka's ports and connect to maritime transportation, the next mode of transport. In Sri Lanka, there are four major types of national highways that connect the entire island. The table below provides information on these four categories, including their total length and speed limits.

Table 1: Road Categories in Sri Lanka

Class	Description	Speed Limit (Kmph)	Total Road Length (Km)
E	High speed, High traffic corridors, which duplicate A class routes that are having difficulty coping with the traffic volume.	100	312.586
A	The national highway networks.	70	4217.42
B	Major provincial roads and used as feeder roads for A and E class roads	60	8037.981
C	Local residential Roads.	50	

Source: Road Development Authority – Sri Lanka

The improved road networks have enhanced accessibility and facilitated greater mobility. The expansion of these roads directly influences both the economic and social development of the country. This is primarily due to the connection they

provide between rural communities in Sri Lanka, ensuring access to essential services such as education, healthcare, and markets.

In Sri Lanka, there are four major types of national highways that connect the entire island, ensuring comprehensive road connectivity. As the demand for transportation continues to increase, people in Sri Lanka show a strong preference for using roads for their daily trips, even though the Sri Lankan Railway service is available. This preference can be attributed to the high accessibility and flexibility offered by roadway networks. However, this has also resulted in high levels of congestion on national highways, indicating the need for efficient management and infrastructure planning to alleviate congestion issues.

In recent years, Sri Lanka has made significant advancements in its road transport system through the construction of an expressway network. This strategic development comprises various expressway projects that are in different stages, including under construction, planning, and already in use. The following table provides details of some of the expressways in Sri Lanka.

Table 2: Road Categories in Sri Lanka

Number	Name	Length (km)	Northern end	Southern end	Completed
E01	Southern Expressway	200.45	Kadawatha, Colombo	Mattala	2020
E02	Outer Circular Expressway	28.8	Kerawalapitiya	Kottawa, Colombo	2019
E03	Colombo-Katunayake Expressway	25.8	Bandaranaike International Airport	New Kelani Bridge, Colombo	2013
E04	Central Expressway (Section II)	40.9	Kurunegala	Mirigama	2022
E04	Central Expressway (Section I, III & IV)	137.1	Dambulla	Kadawatha	Under construction
E06	Magampura Expressway	16.5	Andarawewa	Hambantota	2019
E09	Port Access Elevated Highway	5.3	New Kelani Bridge, Colombo	Port city	Under construction
	Ruwanpura Expressway	73.9	Kahathuduwa	Pelmadulla	Under construction
	NKB-Athurugiriya Elevated Highway	17.3	New Kelani Bridge, Colombo	Athurugiriya	Under construction

The E01 Southern Expressway is Sri Lanka's inaugural expressway network. The planning phase for this road network commenced in 1990, followed by construction activities that began in 2003. The Southern Expressway serves as a vital link connecting two significant regions within Sri Lanka. While it is important to note that these expressways are not intended for bicycle use,

motorcycles, and three-wheelers. they have nonetheless brought numerous benefits to the country.

The marginal productivity of roads is influenced by the demand for transportation and the choices people make regarding road usage (Lindsney* & Verhoef*, 2001). In Sri Lanka, there is a growing preference for using roads for daily trips, even with the existence of the Sri Lankan Railway service. This increased road usage has led to high congestion on national highways and an increase in highway accidents, resulting in various negative effects on the country. The occurrence of road accidents is greatly influenced by driver behavior, which is closely linked to their socio-economic characteristics, including gender, age, income level, educational background, and marital status (Shaja, M.M.M., and Bandara Y.M., 2021). As a result, the development and maintenance of roads have become vital concerns. In response to this, the construction of expressways has commenced in Sri Lanka.

The marginal productivity of roads varies between highways and expressways due to significant differences in demand. Unlike highways, expressways in Sri Lanka restrict the types of vehicles allowed to enter the network. Additionally, the Road Development Authority, responsible for maintaining the expressways, imposes charges on vehicles using these networks, with varying prices during the day and night. As a result, the demand for the expressway is subject to fluctuations based on these pricing changes.

Factors affecting the demand for the Outer Circular Highway (OCH), for instance, include the population of cities like Colombo and Gampaha, employment rates, income levels, tourism, commercial and educational institutions, land use patterns, parking facilities, and fuel prices. Tourism, for example, may influence the seasonal demand for the expressway, while the presence of educational institutions in cities affects its demand as well. These variables can have varying short-term and long-term impacts on how people respond to changes.

Changes in the aforementioned factors result in variations in demand. For instance, an increase in expressway prices may lead to a decrease in demand, while an increase in income levels may result in increased usage (Douglas B, & Lee J., 2000). Understanding these variations provides insights into the elasticity of the expressway concerning different factors. By obtaining numerical values for elasticity, it becomes possible to plan a better transportation system for the

expressway. The current pricing system has excluded certain segments of society, as individuals with lower incomes may need to spend a significant portion of their salary on public transport via the expressway, while those with higher incomes pay less for their private vehicles. This makes it unaffordable for lower-income individuals. Consequently, these values are valuable for planning future expressway constructions.

The findings of this research can help predict various trends, policies, and projections that impact transportation activities. For example, with increasing congestion in cities, the efficient utilization of road infrastructure becomes increasingly important. Having knowledge of elasticities is vital for authorities to evaluate alternative management policies for freeway demand, aiming to enhance social welfare and the level of service for highway users. These findings can also contribute to identifying suitable improvement solutions, implementing transport demand management, informing policy-making processes, and enhancing overall transport system implementation.

The following are the research objectives of this paper,

- Determine the factors that impact the marginal productivity of roads.
- Investigate the relationship between road stocks, vehicle stocks, and the estimation of marginal productivity of roads.
- Identify the correlation between GDP growth and changes in road stock and vehicle stock elasticity.

2. Literature Review

Various studies have been carried out regarding travel demand and elasticity, encompassing diverse aspects such as definitions, factors influencing travel demand, demand calculation, and equations. However, limited research specifically focused on Sri Lanka's context due to the relatively recent introduction of expressways to the country's road network.

2.1. What is marginal productivity?

The marginal productivity of roads refers to the change in output resulting from a change in the road capital stock by one unit (one kilometer) (Stiven et al., 2016). Despite the availability of various modes of transportation, road infrastructures are

widely utilized by a significant number of commuters. These commuters can be categorized into two groups: those traveling for personal reasons and those involved in freight transportation. Personal travel purposes include education, business, commerce, culture, and social activities. Freight transportation purposes include timely delivery of goods, machine and vehicle transfers for sales, and milk-run transportation. The economy of Sri Lanka heavily relies on private sector production. This research aims to develop a method for measuring the marginal productivity of roads. The construction of roads directly contributes to increasing GDP as an investment in the national economy, while also generating multiplier effects across other sectors. Thus, the development of roads indirectly contributes to GDP growth. Road productivity is calculated by dividing the total output per period by the total road stock utilized during that period. Productivity serves as a crucial factor in determining operational efficiency (Jiwattanakupaisarn, Noland, & Graham, 2012).

2.2. Factors affecting the marginal productivity of roads.

The productivity of a roadway network is influenced by various factors, including the vehicle stock of Sri Lanka and the road stock of Sri Lanka. These factors can affect different types of travel in distinct ways, as indicated by research conducted by Todd Litman in 2017:

- Commercial (business) travel is generally less sensitive to changes than personal travel.
- Commuter trips are typically less elastic compared to shopping or recreational trips.
- Travelers with higher incomes tend to be less price-sensitive than those with lower incomes.
- Weekday trips may exhibit different elasticities than weekend trips.
- Urban peak period trips often show price inelasticity due to congestion, as lower-value trips are discouraged, resulting in a higher proportion of higher-value automobile trips.

These findings provide insights into how different factors influence the demand and responsiveness of various types of travel within a roadway network.

2.3. Road stock of Sri Lanka

There have been numerous research studies conducted on the productivity of roads, as it plays a significant role in highway efficiency. The measurement of road infrastructure is based on the monetary value of the capital stock, determined through the perpetual inventory method. This method calculates the stock of road infrastructure in a specific year by summing the past real expenditures on roads, adjusted for depreciation (Fuente & Económico, 2010). However, empirical evidence in the literature does not distinguish between the productivity effects of construction activities and maintenance, making it challenging to derive specific policy insights.

A previous research paper's main contributions lie in providing updated estimates of the productivity effects of road investment using a dynamic model. It also evaluates the cost-effectiveness of road capacity expansions. Unlike previous research that often relies on regression coefficients, this study examines the marginal productivity of a one lane-mile increase in capacity (Melo, Graham, & Brage-Ardao, 2013). By analyzing the present value of future output gains compared to estimated costs, it determines whether investment in roads is beneficial or not. The dynamic panel specification, known as a first-order autoregressive distributed lag (ARDL) model, considers the dynamic adjustment of state output to changes in road infrastructure and other factors.

Three types of measures are distinguished: output measures, input measures, and productivity measures in this paper. Output measures are crucial for classifying the relative importance of different roads in economic activity. They provide information about the contribution of roads to economic output. Input measures are used to assess the cost of different roads, while productivity measures help evaluate the resource efficiency of roads in delivering outputs relative to input levels. These measures are useful for benchmarking road performance and assessing their efficiency in achieving desired outcomes (Stiven et al., 2016).

2.4. Vehicle stock of Sri Lanka

Vehicle stock is another important aspect to consider. According to Fay Dankerley, Charlene Rohr, and Andrew Daly (2010), changes in income directly impact the demand for transportation, influencing the number of trips taken and the distance traveled by individuals. Additionally, Bradburn and Hyman (2002) highlight that

the indirect impact of GDP on car traffic, resulting from its influence on car ownership, is more significant than the direct effect.

Goodwin, Dargay, and Hanly (as cited in Todd Litman, 2007) made predictions regarding the effects of a 10% increase in real income:

- The number of vehicles and the total amount of fuel consumed by them would both rise by nearly 4% within approximately a year and over 10% in the long run.
- Traffic volume, representing total vehicle travel, would increase by about 2% within a year and 5% in the long run, indicating that the additional vehicles are driven less than the average mileage.

Furthermore, Blumberg and Pierce (as cited in Todd Litman, 2007) observed that as household income rises from low to medium levels, vehicle ownership and travel tend to increase at a faster proportionate rate than incomes.

2.4. Estimation method

Toll roads have recently been introduced to Sri Lanka's road network. There is limited literature available on the estimation of expressway productivity in the country. Research studies conducted in foreign countries have focused on their respective roadway networks, raising questions about the applicability of their models and methods to the transportation system in Sri Lanka. Furthermore, people's attitudes towards road access and the number of vehicles they own may differ, adding complexity to the analysis. Unfortunately, there is a scarcity of numerical data available for this particular study.

2.5.1. Data collection method

Piyapong Jiwattanakupaisarn, Robert B. Noland, and Daniel J. Graham utilized data on roadway lane-mile for the forty-eight contiguous US states from 1984 to 2005. Their objective was to measure direct changes in the physical stock of highway infrastructure within each state.

Inmaculada C. Álvarez and Reyes Blázquez conducted their study using provincial Spanish panel data spanning from 1980 to 2007. They employed nonparametric frontier techniques based on Data Envelopment Analysis (DEA) to analyze the Malmquist productivity indexes. This approach allowed them to evaluate productivity growth in terms of technological changes and efficiency gains.

2.5.2. Statistical methods to calculate marginal productivity of roads.

Various statistical tests are employed to fine-tune a model to fit specific circumstances. In the context of urban regions, the Three-step models are commonly utilized to forecast highway productivity and assess the impact of expanding highway capacity (Todd Litman, 2007). The Three-step model consists of the following steps:

- Providing up-to-date estimates of the productivity effects of highway investment using a dynamic model.
- Evaluating the cost-effectiveness of highway capacity expansions based on these estimates.

Coefficients derived from regressions, which are commonly reported in previous research, do not always provide conclusive evidence regarding the cost-effectiveness of investment. To address this limitation, we determine the marginal productivity of increasing capacity by one lane-mile.

In this empirical investigation, the framework outlined by Jiwattanakulpaisarn et al. (2011) was adopted which defines a dynamic log-linear production function model. This model accounts for time lags in the productivity effect of highways.

Where α & β are model coefficient and ε_t is random error term. Moreover, in this model β is the unit and it is constant. Let, P_1, P_2 & Q_1 & Q_2 are two observations, and above log-log model written in this form,

$$\ln(Q_1) = \alpha + \beta \ln(P_1) + \varepsilon_t \quad (1)$$

$$\ln(Q_2) = \alpha + \beta \ln(P_2) + \varepsilon_t \quad (2)$$

$$(1) - (2) \quad \ln(Q_1) - \ln(Q_2) = \beta \ln(P_1) - \ln(P_2)$$

$$\beta = \frac{\ln(Q_1) - \ln(Q_2)}{\ln(P_1) - \ln(P_2)}$$

Multiple models and equations are available for calculating productivity. In their study, Louis de Grange, Felipe Gonzalez, and Rodrigo Troncoso (2015) utilized log linear regression models with aggregated data to estimate the productivity of three distinct urban freeways in Santiago. They also highlighted three main econometric models commonly used for productivity estimation:

- Linear (or log-linear) regression using cross-sectional data.
- Linear (or log-linear) regression using time series data.
- Linear (or log-linear) regression using panel data.

These models provide different approaches to analyzing and estimating productivity in various contexts, allowing for a comprehensive understanding of the factors influencing productivity.

2.5.3. Elasticity of road and vehicle usage.

When calculating price elasticity, it is essential to consider inflation. As stated by Todd Litman (2017), elasticity analysis should be conducted using real prices that are adjusted for inflation, rather than using nominal or current prices that are not adjusted for inflation. Goodwin, Dargay, and Hanly (as cited in Todd Litman, 2007) made predictions regarding the effects of a 10% inflation-adjusted fuel price increase:

- Traffic volumes are expected to decrease by approximately 1% within a year and 3% over the long run (five years).
- Fuel consumption is projected to decrease by about 2.5% within a year and 6% over the long run.
- Vehicle fuel economy is anticipated to improve by approximately 1.5% within a year and 4% over the long run.
- Total vehicle ownership is estimated to decrease by less than 1% in the short run and 2.5% in the long run.

2.5.4. Use of aggregated and disaggregated data.

Discrete choice models, such as logit and probability models, are typically employed when working with disaggregated data. This means that information is available at the individual level, such as data on car drivers or public transport users. Such data is often obtained through revealed or declared preference experiments, such as surveys.

When the objective is to predict future flows, using aggregate data is natural and even preferred. However, if the aim is to simulate user behavior or draw statistical inferences, disaggregated data is more suitable (Oum, 1989).

Furthermore, Labeaga and López (as cited in Louis de Grange, Felipe Gonzalez & Rodrigo Troncoso, 2015) highlight that the choice of econometric model and technique depends on the type of data available, whether it is cross-sectional, time series, or panel data. The selection of the appropriate model and technique should align with the characteristics of the data at hand.

2.5.5. Models developed by researchers from other countries.

In a study by Piotr S. Olszewski and Litian Xie (2002), a price elasticity analysis was carried out for the road sector in Singapore. To conduct this analysis, the model proposed by Polak et al. (1994) was utilized. This model establishes the relationship between traffic flows and various factors including travel cost, income, car stock, and other explanatory variables.

$$\ln(Q_t) = \beta_0 + \sum_i \beta_i \ln(X_{it}) + \beta_Q \ln(Q_{t-1}) + \varepsilon_t$$

Where,

Q_t = Traffic flow

X_t = Vector of explanatory variables in year t

β = Vector of model coefficient

ε_t = Disturbance term (Possibly serially correlated)

This model has two important benefits, log-log formulation means that each coefficient β_i has a direct interpretation as the short term elasticity (E_{st}) of flow with respect to variable X_i . Secondly, the geometric lag structure which is implicit in the use of the lagged dependent variable Q_{t-1} provides a plausible characterisation of adjustment dynamics, leading to the following estimate of long term elasticity (E_{Lt}) (Piotr S Olszewski & Litian Xie, 2002).

$$(E_{Lt}) = \frac{\beta_i}{1 - \beta_0}$$

Furthermore, the authors calculated the time-variable elasticity by dividing the time periods into specific segments. These segments include the saturation toll period, which ranges from 7:30 am to 8:30 am and 6:30 pm to 7:30 pm. The high toll period encompasses 8:30 am to 9:30 am, 6:00 pm to 6:30 pm, and 7:30 pm to 9:00 pm (which corresponds to the peak-hour toll for most segments). The remaining hours are categorized under the base toll period.

In their estimation model, the authors considered various factors that influence the traffic volume on the Santiago freeways. These factors include toll charges, fuel prices, seasonal variables, and controls that reflect the level of activity within the city.

And the model they used is,

$$\ln(\text{flow}_{it}) = \alpha + \eta_f \ln(\text{toll}_{it}) + \eta_g \ln(\text{fuel}_t) + \eta_{UOCT} \ln(UOCT_t) + \gamma'D + u_{it}$$

Where,

i = freeway toll palza index

t = time

η_f, η_g = free way toll and fuel price elasticities respectively

$\gamma'D =$

dichotomous variable sets for time of day, day of the week, month & year

$UOCT =$ Total flow of four toll free arterial roads in the city

Furthermore, the authors reached the conclusion that drivers in Santiago are more sensitive to changes in fuel prices compared to changes in toll charges. This is supported by their finding that the fuel price elasticity was higher than the toll elasticities. This suggests that individuals in Santiago are highly inclined to reduce their travel time.

In a separate study conducted by Mico Mrkaic and Rado Pezdir (2008) in Slovenia, toll and fuel elasticities for cars and trucks passing through a toll station were examined using high-frequency data collected over a period of four years. The use of high-frequency data provides several advantages, including an increase in the power of hypothesis tests with a larger number of observations and the ability to

analyze the temporal microstructure of demand for highway transport. By analyzing the collected data from the toll station, the authors identified several facts regarding travel demand and traffic volume trends. These facts include a strong seasonal dependency, a significant dependency on the day of the week, and an overall increasing trend in traffic volume driven by economic growth.

Based on these findings, the authors concluded that any econometric models should incorporate dummy variables to account for seasonal cycles, trend variables, weekday dummies, and time dummies. However, there were certain limitations in their study as they did not consider certain factors that could influence the model, such as the number of daily immigrants, available alternatives to the toll road, employment levels in the cities, and the nationality of the drivers.

And the model they developed to estimate the elasticities is,

$$\ln(q_t) = \sum_{i=1}^k a_i * \ln(q_{t-i}) + b \ln(p_t) + c \ln(p_t^g) + d \ln(p_t^d) + eD_d + fD_m + gt + \varepsilon_t,$$

Where,

q_t = Number of cars passing toll station at time t

p_t = Tol at time t

D_d = Dummy variable for week day

D_m = Dummy variable for month

P^d = Real price of D – 2 diesel fuel

P^g = Real price of 95 octane unleaded gasoline

t = time trend

ε_t = stochastic disturbance

$a_1, a_2, \dots \dots a_k, b, c, d, e, f, g$ are parameters to be to be estimated.

Short run price elasticity of demand is,

$$E_{p,short,s}^{demand} = b$$

Long run toll elasticity is demand,

$$E_{p,short,s}^{demand} = \frac{1}{1 - (a_1 + a_2 + \dots + a_k)}$$

Based on their findings, the researchers reached the conclusion that users of Slovenian toll roads generally exhibit low price sensitivity. However, they were unable to draw definitive conclusions regarding fuel price elasticity due to a lack of detailed data on the vehicle ownership structure within the country. It should be noted that vehicles from neighboring countries also enter the toll road and use it. As a result, changes in fuel prices within Slovenia may not have a significant impact on these users since they may prefer to fill their tanks in their own country.

3. Methodology

The primary goal of this research is to estimate the marginal productivity of highways in Sri Lanka. To accomplish this, several specific objectives have been established. Firstly, an extensive literature review was conducted to identify all the factors that influence the marginal productivity of roads. From this comprehensive analysis, the road stock and vehicle stock of Sri Lanka were identified as the two major factors affecting productivity. Subsequently, the current road stock and vehicle stock data of Sri Lanka were collected at the provincial level, spanning from 2005 to 2020. These data were then organized into different datasets to facilitate the estimation process. In order to achieve the research objectives, an expressway methodology was employed, utilizing the collected stacked data. Regression analysis was the chosen method for this study.

3.1. Data Collection

In Sri Lanka, the economy is significantly impacted by roads and vehicles. To investigate the factors influencing the marginal productivity of vehicles and roads, three types of secondary quantitative data were collected from CBSL, namely GDP, vehicle stock, and road stock of Sri Lanka. To ensure an effective estimation method, the data were organized by province for a period of 15 years from 2005 to 2020. Sri Lanka has nine provinces, and the major road types, categorized as A, B, and E, are observed. Additionally, vehicles were classified into eight

categories, including omnibuses, private coaches, dual-purpose vehicles, private cars, land vehicles, goods transport vehicles, motorcycles and three-wheelers, and others. These vehicle types serve various purposes in the agriculture, industry, and services sectors. The data collection format is provided below,

Table 3: Sample data of vehicles from 2005 to 2020

VSK Western								
VSK Western	Omnibuses	Private Coaches	Dual Purpose Vehicles	Private Cars	Land Vehicles	Goods Transport Vehicles	Motor Cycles & Threewheelers	Others
564,497	7028	9296	81720	110799	11827	55836	276277	11714
614,366	6703	8881	85794	116,990	12,532	67,428	307,449	8589
682,940	7774	9229	91835	131128	12575	62381	355368	12650
794,832	8105	11360	99469	146909	14700	82405	430767	1117
886,243	8421	11678	102821	166223	15455	78609	503035	1
967,097	7124	12096	106571	182421	16793	83891	556329	1872
972,787	6493	11290	102613	183687	14969	82254	569507	1974
969,337	6419	10925	100840	182078	14396	81767	571109	1803
1,075,099	6916	12090	105831	200986	88570	15404	643559	1743
1,204,099	7778	12696	116467	235034	15177	92067	723686	1194
1,279,616	7388	13421	125642	244736	14367	92418	780875	769
1,336,564	5934	13155	130577	255761	16288	92548	819298	3003
1,398,377	6094	13779	134654	262950	15009	91538	871420	2933
1,595,719	8710	16033	147961	333614	14937	94811	978845	808
1,688,341	8562	16454	149444	346534	15936	96106	1054433	872
1,763,267	8947	17727	154890	367165	16241	98482	1098747	1068

Table 4: Sample data of roads from 2005 to 2020

A roads									
National	Western	Central	Southern	Northern	Eastern	North western	North central	Uva	Sabaragamuwa
4339	372	471	353	734	620	408	495	471	415
4339	372	471	353	734	620	408	495	471	415
4339	372	471	353	734	620	408	495	471	415
4314	374	471	325	734	620	408	495	471	416
4220	374	409	347	734	620	354	495	471	416
4220	374	409	347	734	620	354	495	471	416
4220	374	409	347	734	620	354	495	471	416
4216	374	409	347	734	620	353	494	469	416
4219	374	409	347	734	620	353	495	471	416
4219	374	409	347	734	620	353	495	471	416
4219	374	409	347	734	620	353	495	471	416
4219	374	409	347	734	620	353	495	471	416
4215	374	409	347	734	620	352	492	471	416
4215	374	409	347	734	620	352	492	471	416
4215	374	409	347	734	620	352	492	471	416
4215	374	409	347	734	620	352	492	471	416
4215	374	409	347	734	620	352	492	471	416

Table 5: Sample data of GDP from 2005 to 2020

GDP									
GDP National	GDP Western	GDP Central	GDP Southern	GDP Northern	GDP Eastern	GDP North western	GDP North central	GDP Uva	GDP Sabaragamuwa
1403287	675239	133143	133672	37400	68632	144444	55852	59465	95440
1562739	776846	133880	155035	43126	95880	143167	57950	63817	93038
1800750	925075	165509	160200	52987	87369	152925	65527	76687	114471
2098003	1065154	177539	187456	63063	99239	186486	90726	95062	133278
2484191	1243653	217843	230491	72722	117192	231974	102378	114843	153095
3578688	1663758	343804	377469	104224	185474	353670	142608	176997	230684
4410681	2003056	430579	464722	139001	246436	438606	206748	200102	281431
4835290	2216346	473416	509052	155827	279363	466041	221293	219293	294659
5604102	2512908	562744	598975	189739	333968	534831	266954	253178	350805
6543310	2894427	644332	718768	242512	379184	655182	305975	297334	405596
7578554	3243854	775581	834286	277828	478401	760148	379243	361975	467238
8939253	3773701	935650	901996	302265	507318	974762	456296	465533	621732
9657195	4003402	1014848	963229	379416	529613	1036890	523128	524450	682219
10154841	4048326	1076672	1025424	419791	579052	1078859	597866	564938	763913
10910258	4340612	1147127	1094403	455100	625815	1165844	630473	629877	821007
11723298	4654001	1222192	1168022	493379	676354	1259842	664858	702281	882368

3.2. Data Analysis

In the selected study area of Sri Lanka, a model was developed to estimate the marginal productivity of vehicles and roads using the organized data. The independent variable, GDP, and the dependent variables, Vehicle stock (VSK) and Road stock (RSK), were identified. The Cobb Douglas function was employed to establish a productivity relationship between GDP, VSK, and RSK. Regression analysis was then conducted to examine the relationship between these variables and determine their significance. This analysis yielded the "unit changes in GDP when unit changes in VSK and RSK" as a measure of productivity. Additionally, log-linear regression was applied to assess the relationship between the variables in terms of percentage changes, providing insights into the "percentage changes in GDP when percentage changes in VSK and RSK" as an indicator. To account for the provincial variation, the data was stacked and categorized with the inclusion of dummy variables, enabling the examination of relationships at both the provincial and national levels.

Equations:

Cobb-Douglas Production Function (Equation 01)

$$GDP(i) = \beta_0 * X_1^{\beta_1} * X_2^{\beta_2}$$

Linear Production Function (Equation 02)

$$\text{Log}(GDP(i, j)) = \text{Log}(\beta_0) + \beta_{1,i} * \text{Log}X_{1,i} + \beta_{2,i} * \text{Log}X_{2,i}$$

If $\text{Log}(\beta_0) = \alpha$,

$$\text{Log}(GDP(i, j)) = \alpha + \beta_{1,i} * \text{Log}X_{1,i} + \beta_{2,i} * \text{Log}X_{2,i}$$

With Dummy variables

$$\text{Log}(GDP(i, j)) = \alpha + \beta_{1,i} * \text{Log}X_{1,i} + \beta_{2,i} * \text{Log}X_{2,i} + \sum_{i=0}^9 (Di d_i)$$

Log Linear Function (Equation – 03)

$$\text{Log}(\text{Log}(GDP(i, j))) = \gamma + \beta_3 * \text{Log}(\text{Log}X_{1,i}) + \beta_4 * \text{log}(\text{Log}X_{2,i})$$

With dummy variables

$$\begin{aligned} \text{Log}(\text{Log}(GDP(i, j))) \\ = \gamma + \beta_3 * \text{Log}(\text{Log}X_{1,i}) + \beta_4 * \text{log}(\text{Log}X_{2,i}) + \sum_{i=0}^9 (Di * d_i) \end{aligned}$$

After applying this method, the data set was transformed into a cluster data set, which represents the primary clustering schedule of road transportation in Sri Lanka. Two methods were employed using the cluster data set. First, the values were estimated considering the total Vehicle stock (VSK) and Road stock (RSK). Then, the roads were expanded to include categories such as A, B, and E, while the vehicles were categorized as omnibuses, private coaches, dual-purpose vehicles, private cars, land vehicles, goods transport vehicles, motorcycles and three-wheelers, and others. Regression analysis was utilized for this estimation. Additionally, three main econometric models were mentioned, which were applied to estimate productivity:

- Linear (or log-linear) regression using panel data.
- Linear (or log-linear) regression using stacking data.
- Linear (or log-linear) regression using cluster data.

The estimation of marginal productivity of roads' values in this study was based on the utilization of regression analysis as a statistical method, incorporating theoretical principles.

MRP of Roads $MRP_{RSK} = \frac{\Delta GDP_i}{\Delta RSK_i}$

MRP of Vehicles $MRP_{VSK} = \frac{\Delta GDP_i}{\Delta VSK_i}$

Elasticity of MRP of roads $\%MRP_{RSK} = \frac{\% \Delta GDP_i}{\% \Delta RSK_i}$

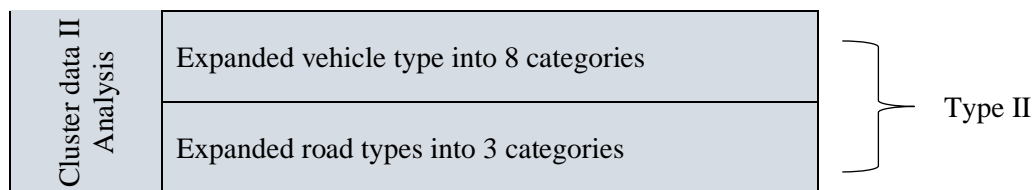
Elasticity of MRP of vehicle $\%MRP_{VSK} = \frac{\% \Delta GDP_i}{\% \Delta VSK_i}$

4. Data Analysis and Results

This research employed three types of analysis to examine the significance of values across different models and assess the significance of the estimation method.

Table 6: Data Analysis Approach

Data Analysis approach		
Stacking data Analysis	All vehicles	} Type I
	All Roads	
Cluster data I Analysis	All vehicles	} Type II
	All roads	



4.1. Stacking Data Analysis

The primary goal of analyzing expressway user behaviour is to address a specific research objective: determining the long-term reactions of expressway users to an increase in toll prices. This analysis relies on data obtained from a survey conducted among expressway users, serving as the main source of information for this study. To conduct this analysis effectively, all the data collected must be consolidated into a single comprehensive view. Once the data set is prepared, regression analysis can be performed to derive insights and draw conclusions.

4.1.1. Estimation of vehicle and road productivity analysis.

Table 7: Stacking data analysis

No	Model		R Square	Intercept	VSK	RSK
1	Model 1	National	0.93	-418316.90	2.14***	466.25*
2	Model 2	Western	0.97	18653595.92	4.49***	(-)8152.93**
3	Model 3	Central	0.91	-555512.94	4.07***	71.67
4	Model 4	Southern	0.93	-894409.28	1.72***	391.79
5	Model 5	Northern	0.76	-141267.69	0.32	127.22***
6	Model 6	Eastern	0.93	-317302.67	2.07***	158.07**
7	Model 7	North-western	0.89	-131481.97	1.52***	79.88
8	Model 8	North central	0.98	5493.01	2.19***	-35.86
9	Model 9	Uva	0.97	-192771.60	3.05***	53.91**
10	Model 10	Sabaragamuwa	0.96	236198.82	2.92***	-139.29

The above table shows the analysis of estimating the productivity of vehicle and roads where the r square value is more than 0.76 for all the models considered. This shows that the data fit well in the regression model. And for each model the

productivity regression equation can be formulated using the values of VSK, RSK, and Intercept as provided in the table.

4.2. Cluster Data Analysis

This analysis serves the research's subsequent objectives, namely the estimation of demand elasticity. The data utilized in this study are primarily sourced from the original data set. The survey form captured responses for two types of fluctuations, with answers provided on a weekly basis. These responses were used to calculate the weekly volume, which was then extrapolated to estimate annual volume. This approach was applied to all the fluctuations related to price and income.

After employing the stacking method and considering provincial-wise marginal productivity, certain values were identified as not statistically significant. Consequently, the total road network was divided into segments A, B, and E.

In Sri Lanka, road transport follows a clustering pattern, with Colombo serving as the primary commercial center. As a result, a significant number of people reside in the western province. Given the commercial activities, many individuals commute from the western province to other provinces. Therefore, the western province plays a central role in this transport cluster.

4.2.1. Estimation of vehicle and road productivity.

To enhance the accuracy of toll price elasticity estimation, Chapter 3 focuses on Category I vehicles. However, within this category, there exist 7 distinct types of vehicles. In order to obtain more precise estimated values, Category I vehicles have been further divided into two subgroups, as illustrated below,

Type I vehicles encompass all vehicles categorized as cars, while Type II vehicles consist of Dual-Purpose Vehicles and Light Motor Lorries. Toll price elasticity has been estimated separately for these two types of vehicles. The estimation process involved analyzing two fluctuations of toll prices: a 20% decrease and increase, as well as a 40% increase and increase.

Table 8: Cluster data analysis

Model		R Square	Intercept	VSK	RSK
Cluster 1	Western to Southern	0.69	-10528645.77	2.73***	7488.18***
Cluster 2	Western to Sabaragamuwa	0.94	-3892589.62	4.72***	2946.70***
Cluster 3	Western to Northwestern	0.93	-9533213.23	2.94***	6853.05***
Cluster 4	Western to Sabaragamuwa to Central	0.77	-741606.54	6.69***	168.51
Cluster 5	Western to Nor west to Nor cent	0.84	-5827071.75	2.42***	4576.08***
Cluster 6	Western to Nor west to Nor cent to East	0.83	-5117799.87	2.35***	4131.51***
Cluster 7	Western to Nor west to Nor cent to North	0.85	-6030044.68	2.41***	4703.34***
Cluster 8	Western to Nor west to Cent to Uva	0.57	-2010965.24	4.06***	1326.99***

5. Conclusion

The expressway network in Sri Lanka plays a significant role in the country's overall roadway system. The demand for this road network has been steadily increasing. Particularly, the Outer Circular Highway section has been instrumental in reducing traffic congestion within Colombo city. However, there is still a phase remaining to be constructed in this section of the expressway.

The travel pattern of expressway users is particularly attractive to those heading to Colombo. The analysis of user behavior indicates a considerable demand from students for this road section. Due to its relatively short distance and comparatively low price, it is affordable for certain categories of students. Additionally, the majority of daily commuters using this network are between the ages of 26 and 35.

Regarding toll price increments, lower-income individuals are more willing to shift their transport mode as a long-term response. On the other hand, high-end users of this road network have two options: continuing to use the road at the same frequency despite price increases or changing their residences, given their financial capability to afford a new residence and use the road as frequently as before.

The toll price elasticity values for Type I vehicles range from (-1.95 to -2.64) for toll price increases and (-0.78 to -0.80) for toll price decreases. Type I vehicle users typically make 5 trips per week, resulting in less demand for trips when toll

prices decrease and a significant decrease in travel demand when toll prices increase.

For Type II vehicles, the toll price elasticity values range from (-2.08 to -3.77) for toll price increases and (-0.49 to -0.66) for toll price decreases. Type II vehicle users currently make enough trips per week and do not show much demand for weekend trips. Therefore, their demand for trips decreases when toll prices fall.

Regarding income elasticity, the selected road section shows characteristics of a normal good. When income increases, there is not much demand for trips on this road. However, when income decreases, there is less demand for the expressway.

For the increase in income, the elasticity of Category I vehicles varies from (0.55 to 0.59), and for Category II vehicles, it varies from (0.43 to 0.54). This indicates that Category I demands more trips than Category II among high-income individuals because Category I users currently make fewer trips per week than Category II users.

When income falls, Category I individuals reduce more trips than Category II individuals, as Category I individuals have comparatively lower incomes than Category II. The income elasticity change when income falls, for Category I, varies from (1.53 to 1.74), and for Category II, it varies from (0.79 to 1.06).

6. Recommendation and Future Research

Sri Lanka's expressway roads are specifically designed for certain types of vehicles and do not accommodate bicycles, motorcycles, three-wheelers, or other land vehicles. As a result, there is an unmet demand for this road infrastructure in the country. Despite the existence of expressways, regular highways in Sri Lanka continue to face congestion because most vehicles still utilize these conventional routes.

The category of vehicles unable to use the expressway includes those commonly used by middle-level individuals, such as bicycles, motorcycles, three-wheelers, and land vehicles. This indicates that this particular social class has been excluded from accessing the benefits of expressway roads. It suggests that the current pricing and other methods employed for the expressway may not be affordable for certain segments of the population. Additionally, even though there are public transport services available on the expressway, the pricing system does not align properly.

Private vehicle owners may end up paying less for a similar distance on the expressway compared to passengers using public transport buses. Consequently, some members of society, particularly those who do not own vehicles, are excluded from benefiting from the expressway network.

To address these issues and make the expressway accessible to all social classes in the country, a proper pricing system should be implemented. This way, everyone can afford and benefit from the convenience and efficiency of the expressway network.

This study focused solely on examining price and income elasticity, disregarding various other factors that could have a significant impact on travel demand. These unexplored factors remain outside the scope of this research. In contrast to other countries, which employ various estimation methods, this research solely relied on user survey data to estimate elasticity. The incorporation of time series data analysis and regression analysis could have resulted in a more robust and effective model for addressing this problem.

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The Effect of Motivations on Ecotourism Intention and Willingness to Pay Premium for Ecotourism: A Conceptual Paper

Weerasekara D.¹, Assella P.²

^{1,2}*NSBM Green University, Sri Lanka.*

*dinusha.s@nsbm.ac.lk*¹

*prasanshika.n@nsbm.ac.lk*²

Abstract

Sustainable consumption has been a popular topic in tourism research and ecotourism has been identified as a form of sustainable consumption. Yet, recent literature emphasizes that there is an ambiguity on ecotourism consumption as actual pro-environmental behaviors deviate from the intentions. Further, it is identified that ecotourism offerings are higher in price and discourage ecotourism consumption. Hence, this study offers a conceptual look at further examining ecotourism consumer behaviors focusing on motivation, ecotourism intention, and the actual behavior. Among the consumer behavioral theories, self-determination theory was identified as a prominent theory to discuss motivation on ecotourism consumption intention. However, it fails to discuss the actual behavior. To address this theoretical gap, the proposed framework further explains self-determination theory; intrinsic and extrinsic motivation on ecotourism intention and thereby willingness to pay premium.

The current study contributes to the existing literature on ecotourism consumption by incorporating ecotourism intention as a mediating variable on the relationship between intrinsic, extrinsic motivation and willingness to pay premium. Further, significant practical implications are provided for ecotourism providers, marketers, policymakers, and other decision-makers for planning and developing ecotourism offerings to encourage and ensure sustainable tourism consumption.

Keywords: Ecotourism, Ecotourism Intention, Extrinsic Motivation, Intrinsic Motivation, Tourist Behavior, Willingness to Pay Premium

1. Introduction

Sustainable consumption has been identified as a rising trend in the tourism industry (Negacz, 2021). According to (IISD,1994, p.4 as cited in Negacz, 2021) sustainable consumption refers to “the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardise the needs of future generations”.

In tourism, sustainable consumption takes place in many forms, and ecotourism: which refers to responsible travel to natural areas that endeavors to preserve the environment and respect the local communities, is identified to be one of them (Negacz, 2021).

Orams, 1995, as cited in Kazeminia, Hultman & Mostaghel (2016), defined ecotourism as “traveling to relatively undisturbed or uncontaminated areas with the specific objective of studying, admiring and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas”. Ecotourism is a particular kind of alternative tourism closely associated with areas that are environmentally and culturally sensitive (Lu, Gursoy & Chiappa, 2014). Wallace & Pierce, 1996, as cited in Sharpley, (2008) posited three key pillars of ecotourism, i.e., (1) Environment, (2) Development and, (3) Experience. Accordingly, the Environment pillar refers to managing ecotourism towards conserving the environment and the natural areas. Development pillar refers to the encouragement of local participation in tourism development to derive sustainable socio-economic benefits for the local communities. Experience pillar refers to providing learning opportunities and meaningful experiences to tourists and the local community.

According to Sharpley (2008), the importance of tourists’ awareness of the environment, engaging in environmentally appropriate forms of tourism, awareness of the impacts of tourism, and, hence, willingness to modify their behaviour are important aspects of the success of ecotourism development. Further, Sharpley (2008) emphasized that tourists must be positively motivated to consume responsibly for ecotourism to achieve its objectives and such tourist-consumer behaviour is fundamental to the development of ecotourism. However, Swarbrooke & Horner, 1999 as cited in Sharpley, (2008) relatively few tourists seem to make purchase decisions based on environmental concerns (Swarbrooke

& Horner, 1999: 204). Sharpely (2008) highlighted that the tourists' motivation directly impacts their nature of consumer behaviour. Further, motivations persuade the tourists to convert themselves from inertia into tourism consumption translating needs into goal-oriented consumer-behaviour. Further, Negacz (2021) emphasized that it is necessity of in-depth studies on factors affecting sustainable consumer decisions, especially in the field of tourism.

1.1 Performance Gap

In sustainable goals, it has been evidently identified depletion of natural resources and negative impacts of environmental degradation, including desertification, drought, land degradation, freshwater scarcity, and loss of biodiversity, as challenges that the world faces. Hence, sustainable consumption is emphasized as one key area to focus on (SDG12). Similarly, the global code of ethics for tourism emphasizes the importance of reducing the pressure of activities of visitors on the environment and enhancing its beneficial impact on the tourism industry and the local economy. According to Sharpely (2008), the concept of sustainable tourism development is challenged by the nature of tourism consumption and, Kazeminia, Hultman and Mostaghel, (2016), posited that environmental policies should focus on reducing materialistic values if the goal of environmental policy is to change environmentally harmful consumption behaviors. Even though institutions have identified policies and other eco-friendly measures to ensure the reduction of harmful environmental behaviours, there is still a doubt about whether people actually are willing to accept those measures. For instance, "ecotourism is recognized as being particularly conducive to enriching and enhancing the standing of tourism, provided they respect the natural heritage and local populations and are in keeping with the carrying capacity of the sites" (Global Code of Ethics for Tourism). Similarly, environmental protection has been identified as a major objective of ecotourism development. Yet, previous researchers' have identified ecotourism as an unattractive type of leisure activity for tourists' who are highly materialistic (Lu, Gursoy & Chiappa, 2014). Similarly, ecotourism criticized for the premium prices compared to the comfortability when compared to the mass tourism offerings (Hultman, Kazeminia & Ghasemi, 2015). Further, Kazeminia, Hultman and Mostaghel, (2016) identified a stronger negative effect of materialistic values on the willingness to pay premium for the respondents with a greater interest in ecotourism. Similarly, it was identified that a greater interest in ecotourism attractions may negate logical reasoning and boost the negative

affective influence of materialistic values on willingness to pay premium price (Kazemina, Hultman & Mostaghel, 2016). Hence, tourists would not want to pay a premium for ecotourism products (Lu, Gursoy & Chiappa, 2014). Therefore, this study critically focuses on how an individual is motivated towards ecotourism consumption and their willingness to pay premium for such consumptions.

1.2 Behavior of the Problem: Empirical and Theoretical Gap

Previous scholars (Paul & Roy, 2023; Baloch, Q.B., Shah, S.N., Iqbal, N. et al., 2022) have discussed ecotourism, as an important topic in current tourism research. However, Hultman, Kazemina and Ghasemi (2015), states that there are only a few studies discussed on motivation, ecotourism intention and willingness to pay premium. Similarly, it has been identified that little attention has been paid to study ecotourism intention and their willingness to pay premium for ecotourism (Duong, Chi, Thi Nguyen, Kim Nguyen, Phuong Nguyen & To Nguyen, 2021) and what motivations can lead to ecotourism intention (Chi & Pham, 2022). Further, existing literature has revealed that behavioral intentions to engage in pro-environmental behaviors do not guarantee that they will actually engage in pro-environmental behaviors. Hence, it has been advised to further research to measure both respondents' behavioral intentions and their actual behaviors (Holden and Sparrowhawk 2002; McDaniel and Rylander 1993, as cited in Chiappa).

In explaining why consumers are willing to pay premiums for ecotourism related products and services, consumer motivation has been identified as a prominent variable. Further, in the discussion of motivation in tourism, self-determination theory has been identified as a macro theory that focuses on human motivation (Deci & Ryan, 1980; Weiner, 1990) and how humans are motivated on knowledge of physical and social environment (Ryan, 1995). The theory discusses two motivations as intrinsic motivation and extrinsic motivation. Further, the relationship between intrinsic and extrinsic motivation with the intention has been widely discussed in ecotourism research (Chan & Boum, 2007). However, self-determination theory is only focusing on motivation, and it fails to discuss willingness to pay premium as an antecedent. To address this theoretical gap, the current study further explains self-determination theory; intrinsic and extrinsic motivation on ecotourism intention and thereby willingness to pay premium.

Accordingly, the purpose of the study is to identify the possible motivational factors driving the willingness to pay premium with the mediating role of ecotourism intention.

2. Literature Review

2.1 Sustainable Tourism Consumption

Sustainable consumption and production are identified "as a holistic approach that focuses on minimizing the negative environmental impacts of consumption and production processes while ensuring the quality of life for everyone" (Akenji et al., 2015). On the consumption side, sustainable consumption and production discuss changes in the consumption patterns of households and governments through transformations in lifestyles and individual consumer behavior and choices (World Bank, 2017b).

Accordingly, sustainable consumption has been defined as "the use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of further generations" (Ofstad et al., 1994).

In the tourism literature, it has been highlighted that sustainable tourism is challenged by the nature of tourism consumption (Sharpley, 2008). Nevertheless, the development of tourism consumption is based on environmental awareness and its impact on tourism. In addition, new tourists are seeking flexible, quality environmentally friendly experiences while old mass tourists were satisfied with the homogeneous, predictable holiday experiences (Poon, 1993).

Further, Dobson (2007) argued that behavioral changes of consumers towards sustainable development are based on environmental considerations than financial incentives. Also, it has been found that the purchases of sustainable products and services and ethical practices have increased over the years (Harrison et al., 2005).

Moreover, Hanss, Bohm, Doran and Homburg, (2016) have highlighted that sustainable consumption could be strengthened to investigate willingness to pay for products and services. Therefore, it has been recommended that sustainable consumption should be further studied.

2.2 Ecotourism

As cited in Bjork (2000), Allcock et al. (1993, p.15) defined ecotourism as "nature-based tourism that includes an educational component and is managed to be sustainable". Further, ecotourism includes the sustainable use of resources with a minimum impact on the environment, economic benefit, and maximum satisfaction to the tourists (Hertzer, 1965) and it has been identified as a part of sustainable tourism (Lai & Shafer, 2005). Moreover, some argue that ecotourism is a declaration of sustainable tourism (Silanteva, 2022) and it focuses on environmental and cultural understandings (Crabtree et al., 2007). Meanwhile, it is identified as a responsible trip to natural areas that could conserve the environment and develop the welfare facilities of local communities and ecotourism has been studied under the nature tourism phenomenon (Wallace & Pierce, 1996). Thus, ecotourism has been familiarized within the context of tourism as more environmentally sensitive tourism (Holden & Sparrowhawk, 2002).

As per the previous findings, Tavakoli, Monavari, Farsad et al., (2022) it is noteworthy that ecotourism has been discussed in diverse ways. Later, previous scholars discussed a common principle of a model of tourism that conserves the environment and provides economic benefits for local communities (Hall & Kinnaird, 1994; Goodwin, 1996; Holden & Kealy, 1996). Presently, tourism has focused on the sustainability approach, and ecotourism has been identified as a timely and relevant area to study (Sadiq & Adil, 2021). Moreover, it has been highlighted that ecotourism as a key research area in both developing and developed countries (Soteriou & Coccossis, 2010).

2.3 Ecotourism Intention

Intention refers to consumer preference towards a specific product or service (Younus, Rasheed, & Zia, 2015). Further, as depicted in the theory of planned behavior attitudes, subjective norms and perceived behavioral control are acting as the main predicting variables of intention (Ajzen, 1991). In tourism research, ecotourism is defined as a tourist's intention to engage in ecotourism (Hultman, Kazeminia & Ghasemi, 2015), and ecotourism intention has been discussed as conserving and experiencing natural areas (Pham & Khanh, 2021). Further, it has been disclosed that previous literature on ecotourism intention has paid more attention to motivation (Luo and Deng, 2008; Hultman et al., 2015).

Ecotourism intention has been identified as “an individual’s intention to travel to relatively undisturbed natural areas to experience the natural environment and, sometimes, the cultural environment” (Chi & Pham, 2022). Further, Pham and Nguyen (2020) have discussed ecotourism intention as an individual’s foreseen or planned future engagement with eco-destinations. Ecotourism intention has paid more attention to factors such as motivation, attitudes, and environmental concerns (Luo and Deng, 2008; Hultman et al., 2015). Previous research also has focused on examining the impact of individuals’ travel motives on their ecotourism intentions (Lee et al., 2014; Postma and Schmuecker, 2017).

Ecotourism also has been conceptualized as responsible environmental behavior which is also a reflection of the environment, commitment, and environmental knowledge (Cottrell & Graefe, 1997). In fact, responsible tourism intention has been defined as consumers’ belief about the future and it is highlighted that consumers develop attitudes in relation to favorable and unfavorable emotional intentions (Zeithaml, 2000). Kang and Moscardo (2006), have discussed attitudes also have been affected towards responsible tourism intention. Further, people with an awareness of environmental protection and conservation will behave responsibly towards the environment (Pham & Khanh, 2021) promoting social and economic benefits (Weeden, 2002). Similarly, Raviv, Becken, and Hughey (2016), has posited that responsible tourism aims to decrease the negative effect of tourism while increasing the social benefits.

On the other hand, (D'Souza, Taghian, & Khosla, 2007) argues that green purchase intention is predominantly dependent on the two dimensions of price and quality of the green product under consideration.

2.4 Willingness to Pay Premium

Willingness to pay premium has been defined as the preparedness to pay more than the other alternative products and/or services in the market (Netemeyer et al., 2004). Further, Bishop and Barber (2014), have discussed that willingness to pay premium acts as a vital factor for designing optimal prices and estimating the demand for a product or service. Ligas and Chaudhuri (2012), further discuss that consumers' willingness to pay more for a specific brand in preference to other alternative brands can lead to profitability and competitive advantage. Also, consumers have the perception of higher price reflects higher value (Davicik et al., 2015).

Further, it is stated that willingness to pay premium as the perceived influence of engaging in an activity (Hultman et al., 2015). According to Duong, Chi, Thi Nguyen, Kim Nguyen, Phuong Nguyen & To Nguyen (2021), willingness to pay premium has been identified as the actual behavior in ecotourism. Similarly, Perkins and Grace (2009) revealed that interest in ecotourism is a factor for tourists' greater intention to ecotourism consumption, as well as their actual behavior.

In a study on consumer willingness to pay for green initiatives, it has been highlighted that consumers who are concerned about the environment are more likely to search for green initiatives and are willing to pay more (Kang et al., 2012). Similarly, Tajfel and Turner (1986) revealed a positive association of environmental concern and willingness to pay premium for green initiatives employing the social identity theory (Tajfel & Turner, 1986). However, in the same study, it is highlighted that many customers dither pay premiums for green initiatives (Choi & Parsa, 2006).

When focusing on the willingness to pay for ecotourism offerings, it is revealed that ecotourism and pricing of sustainable tourism offerings are not focusing competitive market (Duong, Chi, Thi Nguyen, Kim Nguyen, Phuong Nguyen & To Nguyen, 2021). Hence it depicts that the pricing of green initiatives/ecotourism offerings must be handled as consumer sensitivities (Makwela & Elizabeth, 2022).

There are various factors that have affected the willingness to pay premium such as motivation, materialism, and perceived value (Weaver & Lawton, 2007; Hultman et al., 2015). Further, it depicts that most of the existing literature has focused on individual relationships of the variables rather than integrated frameworks to discuss the relationship between willingness to pay premiums, motivation and ecotourism intention. However, previous research has emphasized that pricing for ecotourism has not been paid much attention (Cetin et al., 2017). Similarly, a limited number of studies have discussed the assessment of consumer willingness to pay premium (Lim, 2016).

2.5 Intrinsic Motivation

Motivations are internal psychological factors that direct towards behavior (Iso-Ahola, 1980). Similarly, motivation means moving to act on something (Deci & Ryan, 2000). According to previous literature, self-determination theory has been discussed as a theoretical underpinning to understand motivations in terms of

intrinsic and extrinsic motivations (Deci & Ryan, 2000). Intrinsic motivation has been defined as an individual's internal values and attitudes that affect personal enjoyment and satisfaction without any external outcome (Grønhoj & Thøgersen 2017). Further, Intrinsic motivation has been characterized as a feeling of interest (Cini, Kruger, & Ellis 2013) and enjoyment or fun (Deci & Ryan, 1985). Also, intrinsic motivation has been identified as pleasure and satisfaction that occurs due to internal interests. (Vallerand & Blssonnette, 1992; Chiu & Li, 2015; Van Yperen et al., 2016; Ifinedo, 2017).

Internal and external motivations have been studied in previous tourism research as “push” and “pull” motives (Crompton, 1979; Dann, 1977, 1981). Further, tourist motivations have been identified as factors that relate to the needs, goals, and preferences of the tourists, and understanding tourist motivations is important in understanding tourist behaviour in relation to destination choice (Chan & Baum, 2007).

Accordingly, internal motives have been referred to as “push motives”; traveler needs, wants, desires, and are intangible and intrinsic needs (Lundberg, 1990). Similarly, Crompton (1979) has highlighted the desire to go on vacation as a push factor in tourism and travel intention has been identified as an emotional state of pleasure, arousal, and dominance that captures the consumer mindset (Lehto, Douglas, & Park, 2008).

When focusing on ecotourism research, Chan and Baum (2007) highlighted that the intrinsic motivations of ecotourists aim to achieve a broad objective of an individual, such as a need to get away from work or to enjoy a different natural environment. Similarly, learning about nature, active participation and meeting new people with similar preferences have been identified as the main intrinsic motivations of ecotourists (Holden and Sparrowhawk, 2002) Therefore, it could be identified that the intrinsic motivations of ecotourists are diverse and required to further study.

2.6 Extrinsic Motivation

Extrinsic motivation has been defined as being motivated by external factors (chow et al., 2017). Further, explanations relating to extrinsic motivation highlight that it is mandatory to have external rewards to motivate consumers externally towards something (Deci, Ryan, Vallerand, & Pelletier, 1991). As an example, reviews of

other consumers can act as an external motivation to consumers whilst credibility of the source acts as an intrinsic motivator. As per previous literature, further classifications of extrinsic motivation have been identified such as integrated, identified, introjected and external regulations (Deci & Ryan 1985) and Huang et al. (2016) emphasize that extrinsic motivation tends to lessen people's intrinsic motivation to engage in eco-friendly practices. Additionally, from the findings of Davis et al. (1992), it is evident that consumer internal and external motivation helps to lead consumers towards purchase intention.

According to tourism literature, extrinsic motivations have been referred to as “pull factors” (Crompton, 1979; Dann, 1977, 1981) and are used to explain tourists’ choices (Crompton, 1979). Further, these factors have been identified to be associated with tourism destination features, attractions or attributes (Klenosky, 2002), which are tangible features of the destination’s attributes (Chan & Baum, 2007).

The empirical evidence on ecotourism revealed that natural attractions, including wildlife, rainforest, nature and wildlife conservation and local lifestyle and eco-activities; such as riverboat cruises and jungle walks are important extrinsic motivating factors in attracting ecotourists to a destination (Chan & Baum, 2007). Similarly, Ajuhari, Aziz and Bidin (2023) have identified the availability of preferred outdoor activities and the opportunity to spend time with their companions as important extrinsic factors in ecotourism.

3. Conceptualization

3.1 Intrinsic Motivation and Willingness to Pay Premium

Motivation has been discussed widely in relation to travelling. Further, tourism literature indicates that tourists who seek motivation are always concerned about environmental and social issues (Holden & Sparrowhawk, 2002). Similarly, environmentally concerned tourists always depict stronger motivation to attend environmental related content (Luo & Deng, 2008). Further, it is identified that intrinsic motivation as pleasure and satisfaction occurs due to internal interest (Vallerand & Blssonnette, 1992; Chiu & Li, 2015; Van Yperen et al., 2016; Ifinedo, 2017).

Willingness to pay premium has been defined as being prepared to pay more than the other alternative products/services in the market (Netemeyer et al., 2004). Accordingly, the intrinsic motivation was found to have a positive relationship with willingness to pay premium (Kim, Shinaprayoon & Ahn, 2021).

Supporting the mentioned relationship, perceived enjoyment, another conceptualization of intrinsic motivation has a positive relationship with intention and thereafter willingness to pay premium (Kim, Shinaprayoon & Ahn, 2021). Further, the same study states that people accept and change their behavior when they are internally motivated through enjoyment (Davis, Bagozzi, & Warshaw, 1992). Another study disclosed that there is a tendency to pay premium prices for eco-friendly activities due to internal motivation (Hultman, Kazeminia, & Ghasemi, 2015). According to the above arguments below hypothesis has been derived.

H1: Intrinsic motivation will impact the willingness to pay premium.

3.2 Extrinsic Motivation and Willingness to Pay Premium

Extrinsic motivation defines as being motivated by external factors (chow et al., 2017). Further, explanations relating to extrinsic motivation highlight that it is mandatory to have external rewards to motivate consumers externally towards something (Deci, Ryan, Vallerand, & Pelletier, 1991).

Willingness to pay premium has been defined as prepared to pay more than the other alternative products/services in the market (Netemeyer et al., 2004). As discussed, the relationship of intrinsic motivation and willingness to pay premium, extrinsic motivation and willingness to pay premium has a close relationship (Gilal, Zhang, Naeem & Rukhsana, 2018).

Numerous scholars have counter-argued on the uncertainty of willingness to pay premiums for environmentally sustainable products and services (Arnot, Boxall, & Cash, 2006; Corrigan, Kling, & Zhao, 2008; Ellis, McCracken, & Skuza, 2012; Ha-Brookshire & Norum, 2011; Ku & Zaroff, 2014). Further, it disclosed that external motives such as incentives cannot be considered as permeant behavioral changes (Dodds et al., 2021). Similarly, scholars have proven that external motives are considered as temporary, and as a result, the behavior is also considered to be temporary (Pelletier et al., 1998). However, some scholars have found that there is a relationship between extrinsic motivation and willingness to pay premium (Gilal,

Zhang, Naeem & Rukhsana, 2018). According to the above arguments below hypothesis has been derived.

H2: Extrinsic motivation will impact the willingness to pay premium.

3.3 Ecotourism Intention and Willingness to Pay Premium

Ecotourism intention is defined as the tourist's intention to engage with ecotourism in the near future (Hultman, Kazeminia & Ghasemi, 2015). Also, ecotourism intention has been widely discussed in tourism related studies. However, it has been identified that further investigation of antecedents of willingness to pay premium is vital (Hultman, Kazeminia & Ghasemi, 2015). Hence, Hultman et al., (2015), have discussed the willingness to pay premium along with the theory of planned behavior. According to the results, it is identified that there is a positive relationship between ecotourism intention and willingness to pay premium (Hultman et al., (2015).

Supporting the above proclamation, another study relating to the intention and willingness to pay premium has identified a positive relationship (Kim, Shinaprayoon & Ahn, 2021). In the same study, it states that enjoyment will affect the intention and thereafter it affects the willingness to pay premium. According to the above arguments below hypothesis has been derived.

H3: Ecotourism intention will impact the willingness to pay premium.

3.4 Intrinsic Motivation and Ecotourism Intention

Deci and Ryan (2010) have discussed that intrinsic motivation has the highest level of determination when an individual is motivated by pleasure and feelings. Further, Cini, Kruger, and Ellis (2013), disclosed that intrinsic motivation is denoted by the feeling of something that is interesting. The relationship between motivation and ecotourism intention has been discussed widely (Hultman, Kazeminia & Ghasemi, 2015) as a positive relationship. Further, another study relating to extrinsic, intrinsic motivation in the use of Internet as a tourist information source states that the outcome of intrinsic behavior and extrinsic behavior affects the intention (Castaneda, Ma Frias, Munoz-Leiva & Rodriguez, 2007). Further, the same study deployed that intrinsic motivation affects more than extrinsic motivation towards intention. Moreover, in supporting the above relationship between intrinsic motivation and intention, a recent study conducted by Elgarhy, Rahieem and

Abdulmawla (2023) argues that intrinsic motivation acts as a consequence of intention.

Supporting the above argument, another study states that the impact of intrinsic motivation on intention has not been studied systematically (Li, Liu, Shen & Li, 2021). Additionally, perceived enjoyment positively influences the intention more extensively (Heijden, 2003; Lin, Wu, & Tsai, 2005; Teo et al., 1999). Further, it has been identified that environmentally friendly or sustainable products and services tend to be driven by intrinsic motives than extrinsic motives as individuals decide it based on feelings (Kazeminia et al., 2016). Hence, respecting the above arguments, the hypothesis below has been derived.

H4: Intrinsic motivation will impact the ecotourism intention.

3.5 Extrinsic Motivation and Ecotourism Intention

The main motivation of the users with goal-directed behavior is related to functional aspects or extrinsic motivation (Castaneda, Ma Frias, Munoz-Leiva & Rodriguez, 2007). Further, perceived usefulness has been identified as a significant variable that has a direct relationship with behavioral intention under Technology Acceptance Model (Davis et al., 1989). Further, a study relating to extrinsic motivation and intention has found that there is a positive relationship between extrinsic motivation and intention (Fagan, Neil & Wooldridge, 2008).

Moreover, extrinsic factors or the destination attributes, e.g.: natural attractions, wildlife, local lifestyle and eco-activities are the main motivational factors towards ecotourism consumption intention; and these factors influence the intrinsic factors of ecotourists, e.g.: the social psychological desire to escape from routine lifestyle or of normal life (Chan & Baum, 2007). Further, it has been identified that perceived usefulness is a key predictor of intention (Kim, 2016) and another study of ecotourism has found that there is a relationship between perceived usefulness and intention (Kim, 2016; Sahli & Legohérel, 2016). Further, another study of tourists' technology acceptance has highlighted that if perceived usefulness is high the probability of having intention would be high (Sadiq & Adil, 2021). According to the above arguments below hypothesis has been derived.

H5: Extrinsic motivation will impact the ecotourism intention.

3.6 Intrinsic Motivation on Willingness to Pay Premium Mediates by Ecotourism Intention

In the discussion of mediating impact of ecotourism intention in the relationship between intrinsic motivation and willingness to pay premium, Lu, Gursoy and Chiappa (2014) have highlighted that the individuals who are interested or motivated towards ecotourism would only engage in ecotourism activities. Further, the same study highlighted that consumers who are having the intention towards ecotourism activities tend to pay premium (Lu, Gursoy & Chiappa, 2014). According to previous literature relating to destination marketing, it states that an individual's intention to select a destination is led by intrinsic motives (Battour, Battor & Ismail, 2014).

Further, in another study on ecotourism intention and willingness to pay premium, it was found that there is a mediating impact of ecotourism intention on the relationship between perceived value and willingness to pay premium (Duong, Chi, Thi Nguyen, Kim Nguyen, Phuong Nguyen & To Nguyen, 2021).

In supporting the above relationship, consumers' knowledge and awareness about ecotourism will affect the interest and intention and thereby consumers' willingness to pay premium (Lu, Gursoy & Chiappa, 2014). According to the above arguments below hypothesis has been derived.

H6: Ecotourism intention will impact the relationship between intrinsic motivation and willingness to pay premium.

3.7 Extrinsic Motivation on Willingness to Pay Premium Mediates by Ecotourism Intention

Extrinsic motivation has been conceptualized as perceived usefulness (Oh, Jeong & Baloglu, 2013). As per literature, perceived usefulness is what consumer believes with the usage of products or services (Axel & Daniel, 2011). Averdung and Wagenfuehrer (2011), have identified that perceived usefulness has an impact on intention and thereby willingness to pay premium. Moreover, it explains that intention as a vital concept that leads to willingness to pay more for ecological initiatives (Agag, Brown, Hassanein & Shaalan, 2020). Further, it is highlighted that perceived usefulness has a significant impact on willingness to pay (Roe et al.

2001; De Pelsmacker et al., 2005). According to the above arguments below hypothesis has been derived.

H7: Ecotourism intention will impact the relationship between extrinsic motivation and willingness to pay premium.

4. Conceptual Framework

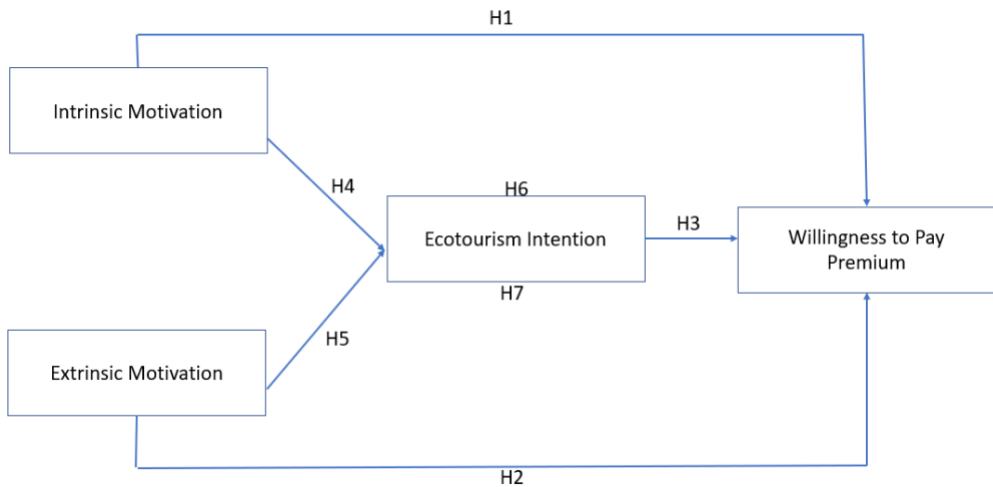


Figure 1: Conceptual Framework
(Source: Authors)

5. Methodology

The present study focuses on identifying the possible motivational factors driving the willingness to pay premium with the mediating role of ecotourism intention by further explaining self-determination theory. Hence, there is an opportunity for future work in this area to apply the quantitative method under the deductive approach (Saunders et al., 2008).

6. Implications

6.1 Theoretical Implications

This study attempts to enhance the existing knowledge of internal and external motivational factors affecting intention and thereby willingness to pay premium for ecotourism. Thus, the current study has used self-determination theory as the main theory to discuss human motivation (Deci & Ryan, 1980; Weiner, 1990) and it has mainly focused on human motivation and consumption behavior. The findings of the present study could be useful for decision makers in implementing new initiations.

However, self-determination theory does not discuss why consumers are reluctant to pay premium even though they are having a positive intention towards ecotourism. Hence, the current study incorporates willingness to pay premium as a vital concept to discuss how consumers are moving towards ecotourism related behaviors. The current study contributes to the existing literature on willingness to pay premium precisely by incorporating ecotourism intention as a mediating variable on the relationship between intrinsic, extrinsic motivation and willingness to pay premium.

6.2 Managerial Implications

Previous empirical findings have posited that pro-environmental behaviors do not guarantee that consumers will engage in pro-environmental behaviors (Holden & Sparrowhawk 2002; McDaniel & Rylander 1993). Hence the findings of the present study will reveal respondents' internal and external motivations and their effect on ecotourism intention and willingness to pay a premium for ecotourism consumption, that will provide some practical implications for ecotourism operators and marketers.

According to Chiappa (2014) it was suggested that the stakeholders involving in ecotourism operations should cooperatively develop and implement communication strategies and materials that emphasize the importance and benefits of ecotourism for the preservation of environment and culture while generating positive benefits for residents and tourists. Accordingly, understanding intrinsic and extrinsic motives for ecotourism would help in segmenting the ecotourism market (Duong, 2021) and will help in developing and implementing

precise and effective messages for encouraging pro-environmental behaviors and the conservation of local culture. Further, segmenting the ecotourism market is important in making decisions for new product development, creating effective advertising messages and strategic positioning (Kessler, Lee & Whittingham, 2020).

Moreover, it is identified that many tourists seek memorable tourism experiences in a destination (Hosany et al., 2022) and tourists who develop memorable experiences are more likely to revisit the destination (Zhang et al., 2018), foster destination loyalty (Kahraman & Cifci, 2023) and, help to gain a sustainable competitive advantage over competitors in the tourism industry (Wei et al., 2019). However, it is identified that the prices of ecotourism offerings are higher but often less comfortable than mass tourism offerings (Hultman, Kazeminia & Ghasemi, 2015) and tourists would not want to pay a premium for ecotourism products yet, ecotourism experience has been identified as a factor to pay a premium price for ecotourism (Huang & Liu, 2017). Therefore, ecotourism providers, marketers, and policymakers have been advised to increase the value of ecotourism towards creating a memorable and unique tourism experience and turning tourists' intentions into their actual decisions (Duong, 2021). Therefore, understanding participants' motivations in ecotourism activities is vital for creating memorable ecotourism experiences and make them pay a premium for ecotourism.

Accordingly, understanding the motivations and intention to ecotourism will help policymakers and other decision-makers to plan strategies for planning and developing ecotourism to encourage and ensure sustainable consumption and production.

7. Conclusion

The current study aims to contribute to the existing knowledge of internal and external motivation towards intention. Further, it focuses on understanding whether consumers are willing to pay premiums for ecotourism. According to the previous literature, the direct relationships of intrinsic motivation and extrinsic motivation towards willingness to pay premium along with a mediating impact of ecotourism intention have been developed. Moreover, based on previous literature, it has been highlighted that internal motivation as a vital variable where an individual could be directed towards ecotourism intention and thereby willingness

to pay premium than extrinsic motivation. However, as a counter argument, extrinsic factors have been identified as the main motivational factors towards ecotourism consumption intention and intrinsic factors of ecotourists are influenced by the extrinsic factors. Hence, it is noteworthy that initiations to enhance both external and internal motivation may result in increasing consumer intention towards ecotourism behaviors.

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