

The Role of Environmental and Psychological Factors in Assisting Sustainable Entrepreneurial Performance (SEP) of Women-Led Micro Firms: A Study Based in Kandy District

GHK Fonseka#, RMAM Rathnayake, DU Kasthuriarachchi, PMTR De Silva and KR Ambepitiya

General Sir John Kotelawala Defence University, Sri Lanka

#36-1g-0049@kdu.ac.lk

Abstract— Women entrepreneurs have most certainly been identified for their notable additions towards the socio-economic advancement of most countries over the past decades. However, the majority of the literature on female entrepreneurs have been cantered on developed countries, and inadequate knowledge is found on women entrepreneurs in developing countries such as Sri Lanka. In accordance with bridging the said theoretical and empirical gap, this study mainly assembled a unit of analysis of women entrepreneurs in the micro-enterprise sector in the Kandy district with a sample that covered all its divisional secretariat areas. Reliability and validity were tested by carrying a pilot survey of 25 respondents. With the gain of 210 respondents on the final survey, it was found that both the main variables in study had positive relationships with Sustainable Entrepreneurial Performance. Further, opportunities for green entrepreneurship and training support did not prove any relationship, while the rest that are social perception, analytical planning, proactiveness, teamwork, government support policy, business environment, green attitude, perceived controlled behaviour, optimism, innovation, leadership and psychological factors had positive relationships with Sustainable Entrepreneurial Performance. Government, private organizations, and Non-Government Organizations (NGO) should consider necessary efforts to enhance the business talents of women with more industrial opportunities and better entrepreneurial setting in Sri Lanka. This study, thereby offers vastly to the knowledge about women entrepreneurship in a developing economy and also assists to consolidate anyone's

understanding about this subject and the scope of entrepreneurship while presenting practical implications for researchers and policymakers.

Keywords— *women entrepreneurs, environmental factors, psychological factors, micro firms, sustainability*

I. INTRODUCTION

Entrepreneurship, a concept trailed among all genders worldwide, can be referred to the practice of starting new organizations or revitalizing mature organizations, particularly new businesses generally in response to identified opportunities. (Eroglu, 2011) With this eminent elaboration of entrepreneurship, it can also be mentioned that this paves a way for the previously unheard and unseen women population to voice out their opinions and strengths by engaging in the field of entrepreneurship by bringing out their entrepreneurial skills. This largely applies to women, due to the fact of evidence that women starting a business are more likely to agree with the motivation of making a difference to the world and if the sustainable development goals are to be tackled through entrepreneurship, then it is surely beneficial to this objective to get more women on board. (Bosma, 2020) Sri Lanka, about which this study was carried out being one of the developing countries in the world; it can be suggested that the country undergoes challenges of general entrepreneurship development and especially women entrepreneurship immensely due to the lack of knowledge creation, enterprise development and also technological development. Women are disproportionately influenced by these inclinations, as they are restrained in their economic enterprises and proceed to face unemployment at twice the rate of men (6% and 3%, respectively) notwithstanding reaching correspondence in school enrollment.

(Gunewardena, January 2016) Only 30% of women above the age of 15 are employed, indicating that labor force participation is as much an issue of women's economic opportunities as unemployment (Senanayake, 2015).

Different empirical studies reveal women are handicapped by religion, culture and various traditions and that more than half of the total female entrepreneurs regularly face gender related challenges environmentally and psychologically concerning operating businesses as well as expanding them. In accordance, many scholars have identified several factors that affect women entrepreneurship in different countries and supportively Frese (2009) has explored the association between psychological characteristics and performance while Mitchelmore and Rowley (2013) have investigated the link between factors of environment and business performance. This research stands out from the above-mentioned, because in reality, their focus areas were on entrepreneurs regardless of gender, in addition to the factors relating to various personal, organizational, socio-cultural, economic, environmental, and sustainable issues. Women entrepreneurs were also not found to be of concern in studies regarding sustainable entrepreneurship. Nevertheless, this study certainly highlights factors that affect the sustainable success of female entrepreneurs in small businesses, with particular reference to the Kandy District of Sri Lanka.

A. Research Objectives

With the significant aim of bridging the gap of focus on women entrepreneurs and SEP, the following objectives are considered.

- To examine the role of environmental and psychological factors in making the sustainable entrepreneurial performance of women-led micro firms in Kandy district
- To identify the factors that increase the sustainable entrepreneurial performance of women-led micro firms.
- To identify challenges for women entrepreneurship in micro firms.
- To suggest the ways to improve the women entrepreneurship in micro firms.

B. Research Questions

The specific questions deliberately answered as a result of this study are,

- 'Do the environmental, psychological factors positively affect in assisting Sustainable Entrepreneurial Performance (SEP) of women-led micro firms?'
- What is the impact of environmental factors on SEP of women-led micro firms?
- What is the impact of psychological factors on SEP of women-led micro firms?
- What are the most significant factors among environmental and psychological factors that affect women-led micro firms?
- With the impact of environmental, psychological factors, what conditions would be brought upon the making of SEP of women-led micro firms?

II. METHODOLOGY

This research based on the identification of the role of environmental and psychological factors on SEP of women-led micro firms entitles an employed positivism philosophy as for the consideration of a scientifically obtained sample in which the data is assembled through a field survey by a structured questionnaire with the analysis conducted by quantitative means. Moving further towards the core of the research onion as presented by Saunders & Lewis (2013), the research approach plays a significant role in carrying out a study, for which this study follows a deductive approach where relevant hypotheses were generated with the application of existing theories and where data were obtained, and current theory was tested to confirm the soundness based on actual practical occurrence evidence. Following such a research approach, this study utilizes the means of self-administered telephoned questionnaire as its strategy of collecting the relevant data by the target respondents even amidst the challenge of the COVID-19 pandemic. This strategy was found to be beneficial as for the three prime benefits presented by Bryman (2012): the ability to maintain quality control over the entire process of data collection, the speed of data collection and cost-efficiency. This study also presents that only quantitative methods are adopted in data collection [questionnaire survey] and analysis [correlation and regression] through to take the supreme

advantage of making definite outcome those can be proven scientifically. Due to certain constraints appended to the study, specifically access to the information, lack of time, absence of required resources; the eminent mono method was chosen as the proper method to illustrate the content of the study. With the consideration of the further layers and necessities of the research onion; the study applied descriptive statistics such as mean, median, mode, standard deviation, sample error and questionnaire content made with Likert scale to analyze the assembled data. Along with the usage of descriptive statistics, the study followed a cross-sectional nature in time horizon by developing the relationships between two independent research variables and one dependent variable. As implied in the title of the research, this study accompanies the Kandy District as its population as this district represents the fourth highest population with a multi-ethnic and multi-culture population of 1,369,899 (Statistics, 2012) also, women forming the majority (52.3%) of this population. With the gathering of the data that the district secretariat of Kandy comprises of 562 women entrepreneurs as per the Women Development Officer, the sample was chosen to represent women-owned micro-scale enterprises with a capital expenditure of less than Rs. 5 million and less than 10 employees in the district, after which the companies that existed for at least three years were screened. This is because, micro-enterprises as described by the Department of Small Industries are the industries with a capital expenditure of less than Rs. 5 million, an annual turnover of Rs. 15 million or less and employing less than 10 employees. To get a reasonable sample size, Morgan's table and sample calculation with a 95% level of confidence and a 5% confidence interval was used to select a sample of 528 women entrepreneurs in these micro firms, which was occupied by stratified sampling methods.

Data gathering was carried out using self-administered questionnaires as stated above, which constituted of 99 items categorized into 5 sections with close ended as well as Likert scaled questions. Besides this primary data gathering, the research also utilized a few main secondary data sources as reports, survey results, journal articles by (Ranasinghe, 2008) that were already published. Following this data collection, this study utilized the data analysis on the Statistical Package

for Social Scientists Software to obtain the reliability and validity of the data and hence the development of the relationship between the variables.

A. Experimental Design

The following figure represents the experimental design utilized in the study in developing relationships by serving its purpose of a conceptual framework.

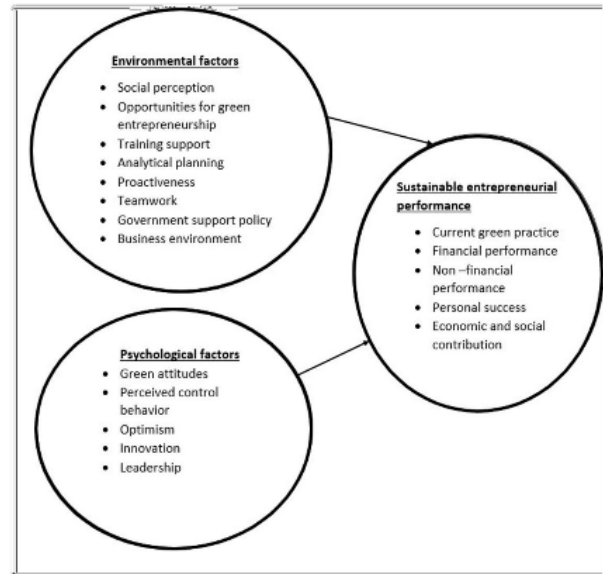


Figure 1. Conceptual Framework

Source: Authors 2020

B. Hypotheses

The following hypothesized associations were subjected to empirical testing in this study:

H1 - There is a positive relationship between social perception of the women entrepreneurs and sustainable entrepreneurial performance of women-led micro firms.

H2 - There is a positive relationship between opportunities for green entrepreneurship of the women entrepreneurs and SEP of women-led micro firms.

H3 - There is a positive relationship between training support of the women entrepreneurs and SEP of women-led micro firms.

H4 - There is a positive relationship between analytical planning of the women entrepreneurs and SEP of women-led micro firms.

H5 - There is a positive relationship between proactiveness of the women entrepreneurs and SEP of women-led micro firms.

H6 - There is a positive relationship between teamwork of the women entrepreneurs and SEP of women-led micro firms.

H7 - There is a positive relationship between government support policy of the women entrepreneurs and SEP of women-led micro firms.

H8 - There is a positive relationship between business environment of the women entrepreneurs and SEP of women-led micro firms.

H9 - There is a positive relationship between green attitudes of the women entrepreneurs and SEP of women-led micro firms.

H10 - There is a positive relationship between perceived control behavior of the women entrepreneurs and SEP of women-led micro firms.

H11 - There is a positive relationship between optimism of the women entrepreneurs and SEP of women-led micro firms.

H12 - There is a positive relationship between innovation of the women entrepreneurs and SEP of women-led micro firms.

H13 - There is a positive relationship between leadership of the women entrepreneurs and SEP of women-led micro firms.

H14 - There is a positive relationship between environment factors of the women entrepreneurs and SEP of women-led micro firms.

H15 - There is a positive relationship between psychological factors of the women entrepreneurs and SEP of women-led micro firms.

III. DISCUSSION AND ANALYSIS

A. Results

This chapter displays and analyzes the data obtained and discusses it accordingly to achieve the research objectives. Data were collected from 210 respondents in 20 divisional secretariat areas through a self-administrated telephone survey. Other than the ultimate survey, a pilot survey was carried to measure validity and reliability.

Variable	Item	Initial Cronbach's Alpha value	Removed items	Cronbach's Alpha value if items removed
Social perception	SP	0.716		
Opportunities for green entrepreneurs	OGE	0.980		
Training support	TS	0.988		
Analytical planning	AP	0.871		
Proactive	PR	0.689		
Teamwork	TE	0.996		
Government support policy	GP	0.854		
Business environment	BE	0.758		
Green attitudes	GA	0.591	GA item 2	0.708
Perceived behavioral control	PBC	0.722		
Optimism	OS	0.601	OS item 5	0.734
Innovation	INV	0.885		
Leadership	LE	0.933		
SEP	SEP	0.798		

Figure 2. Reliability Test

Source: Authors 2020

The Cronhach's Alpha values of all the question groups are greater than 0.7 except green attitudes and optimism groups. It can be said that these questions do not have a good internal consistency and not reliable.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.908
Bartlett's Test of Sphericity	Approx. Chi-Square	2845.931
	df	136
	Sig.	.000

Figure 3. KMO and Bartlett's Test

Source: Constructed 2020

According to the figure 3, outputs indicate that KMO sampling adequacy value is 0.908 where the KMO value for this study surpasses the suggested value of KMO, therefore the factor analysis was headed further. Following which it shows that the significant value of p is less than 0.05. Hence, it is presumed that a significant correlation exists between the variables.

	N	Mean	Std. Deviation	Variance
Social perception	210	3.4746	.70665	.499
opportunities	210	2.6780	.76183	.580
Training support	210	1.7714	.65002	.423
Analytical	210	4.0698	.92424	.854
Proactive	210	4.4214	.52488	.275
Teamwork	210	1.9722	1.32559	1.757
Government	210	2.9848	.76986	.593
Business environment	210	3.0369	.90757	.824
Gratitude	210	4.3876	.54994	.302
PB control	210	3.9571	.68361	.467
Optimism	210	4.1619	.57038	.325
Innovation	210	2.8000	1.29777	1.684
Leadership	210	2.8000	1.29777	1.684
Performance	210	3.4017	.65574	.430
Valid N (list wise)	210			

Figure 4. Descriptive Statistics of Variables

Source: Authors 2020

All the variables were highly important when considering the environment and psychological factors of women entrepreneurs. However, opportunities for green entrepreneurs, training support, teamwork, government support, innovation and leadership were at a lower level as shown on figure 4.

According to figure 5, it was found that almost all the connections were positive other than two relationships. Optimism was a positive but weak relationship. On the other hand, the correlation between the independent variable of training support with the dependent variable of SEP was not significant. Hence, a relationship between these variables was not identified.

Variable	Correlation coefficient	Significance level	Relationship
Social perception	0.527	0.000	Significant, positive, moderate level strength relationship
Opportunities for green entrepreneurship	0.145	0.036	Significant, no relationship
Training support	0.005	0.938	Not significant, no relationship
Analytical planning	0.836	0.000	Significant, very strong, positive
Pro activeness	0.691	0.000	Significant, positive, moderate level strength relationship
Teamwork	0.447	0.000	Significant, positive, moderate level strength relationship
Government support policy	0.521	0.000	Significant, positive, moderate level strength relationship
Business environment	0.787	0.000	Significant, strong, positive
Green attitudes	0.832	0.000	Significant, very strong, positive
Perceived behavior control	0.817	0.000	Significant, very strong, positive
Optimism	0.325	0.000	Significant, weak, positive
Innovation	0.788	0.000	Significant, strong, positive
Leadership	0.788	0.000	Significant, strong, positive

Figure 5. Correlations of Sub-Variables

Source: Authors 2020

Variable	Correlation coefficient	Relationship	Status of the hypothesis testing
Environmental factors	0.844	Significant very strong positive	Reject null hypothesis
Psychological factors	0.854	Significant very strong positive	Reject null hypothesis

Figure 6. Correlations of Main Variables

Source: Authors 2020

Figure 7. Regression Model

Source: Authors 2020

Model Summary ^a				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834 ^a	.696	.694	.36245
2	.877 ^b	.770	.768	.31618
3	.899 ^c	.809	.806	.28864
4	.909 ^d	.826	.823	.27585
5	.915 ^e	.837	.833	.26774
6	.920 ^f	.846	.841	.26118

a. Predictors: (Constant), analytical
b. Predictors: (Constant), analytical, innovation
c. Predictors: (Constant), analytical, innovation, PB control
d. Predictors: (Constant), analytical, innovation, PB control, opportunities
e. Predictors: (Constant), analytical, innovation, PB control, opportunities, business environment
f. Predictors: (Constant), analytical, innovation, PB control, opportunities, business environment, social perception
g. Dependent Variable: performance

The stepwise regression analysis has suggested six models which were significant as shown in the above figure. Sixth model has been selected out of these models because it gives the highest adjusted R2 value (.841). Accordingly, ANOVA table of the regression model is shown below. Since the p value of the model was less than 0.05, it can be said that this model is significant with 95% level of confidence.

ANOVA ^a					
Model	Sum of Squares	Df	Mean Square	F	Sig.
6 Regression	76.022	6	12.670	185.740	.000 ^b
Residual	13.848	203	.068		
Total	89.870	209			

a. Dependent Variable: performance
b. Predictors: (Constant), analytical, innovation, PB control, opportunities, business environment, social perception

Figure 8. ANOVA Table of the Regression Model

Source: Authors 2020

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.315	.151		2.089	.038
analytical	.181	.040	.255	4.559	.000
innovation	.162	.021	.322	7.815	.000
PB control	.214	.044	.223	4.831	.000
opportunities	.118	.025	.137	4.648	.000
Business environment	.125	.037	.173	3.381	.001
Social perception	.102	.030	.110	3.373	.001

a. Dependent Variable: performance

Figure 9. Coefficients

Source: Authors 2020

$$\text{Sustainable Entrepreneurial Performance} = 0.315 + 0.255 * X1 + 0.322 * X2 + 0.223 * X3 + 0.137 * X4 + 0.173 * X5 + 0.110 * X6$$

X1 – Analytical planning

X2 – Innovation

X3 – Personal behavior control

X4 – Opportunities for green entrepreneurship

X5 – Business environment

X6 – Social perception

Among thirteen variables, these six variables were identified as most influential, significant, and predictable factors of business performance.

Model	Unstandardized Coefficients		Beta	t	Sig.
	B	Std. Error			
2					
(Constant)	.034	.121	.282	.018	
psychology	.448	.043	.511	10.377	.000
environment	.594	.066	.444	9.022	.000

a. Dependent Variable: performance

Figure 10. Coefficients

Source: Constructed 2020

According to above table the model is,

$$\text{Sustainable Entrepreneurial Performance} = 0.034 + 0.511 * X1 + 0.444 * X2$$

X1 – Psychological factors

X2 – Environmental factors

Accordingly, psychological factors and environmental factors were positively related, significant, and predictable factors to the sustainable entrepreneurial performance.

B. Discussion

In the light of all views, women and entrepreneurship can be perceived as an inseparable connection. Therefore, the authors subsequently worked on identifying the effect of environmental and psychological factors towards SEP. This study addresses the background of the aspects in concern and how to theorize the research problem and transform towards operationalization with the knowledge aggregated from the background study. The methodology was presented for the way to accomplish the research objectives. The data collection instrument was a self-administered, questionnaire conducted by telephone. The unit of analysis was women entrepreneur owned micro firm and the sample was drawn using a stratified and simple random sampling technique. Data were collected from 210 entrepreneurs with the help of Kandy district secretariat, and it is a non-contrived setting.

A pilot survey was done to ensure the reliability and validity of the study then proceeded to the final survey of the study. Data were collected from the 210 respondents achieving 92% of response rate over 20 divisional secretariats. Before commencing the analysis, data were screened for missing data and outliers as case and variable wise. Thereby 387 cases were selected to process, and analysis was

done in the four ways of univariate, bivariate, multivariate and qualitative analysis. Out of 13 sub-variables, opportunities for green entrepreneurship and training support had no relationship, while all the other independent variables had positive relationships with sustainable entrepreneurial performance. Regression analysis was carried out to find the most influencing and predictable variables on SEP. Furthermore, the findings of this study along with the former and foreign literature were discussed. Most of the relationships were similar to the literature other than opportunities for green entrepreneurship and training support with business performance.

IV. CONCLUSION

Female entrepreneurship has attracted increasing attention in recent years in the light of concrete evidence of its importance for economic growth and development. With the study whether the environmental and psychological factors of women entrepreneurs positively affect the SEP of micro firms or not; all the psychological factors were found to be positive other than the two variables in environmental factors as opportunities for green entrepreneurship and training support. Hence, it can be concluded that environmental and psychological factors of women entrepreneurs positively affect the SEP of women-owned micro firms in Kandy district Sri Lanka. When considering the environmental factors; social perception, proactiveness, teamwork, government support and business environment showed a moderately positive correlation while analytical planning had a high positive correlation with SEP, allowing conclusion that these mentioned variables positively affect the SEP. Since opportunities for green production and support from private organizations in Sri Lanka is lower, it can be concluded that these two variables have no relationship towards SEP. As for the psychological factors, green attitudes, PBC, innovation and leadership had a strong positive relationship while optimism had a weak positive relationship with SEP. In conclusion, among the thirteen variables (under the two main variables), six variables were identified as most influential, significant, and predictable factors of SEP; social perception, business environment, PBC, innovation and analytical planning. Hence, it can be concluded that SEP can be highly facilitated by increasing units of

those variables. The primary objective of this study being to identify and present an understanding of Sri Lankan women entrepreneurs in micro-enterprises between influencing factors and SEP while trying to give knowledge of women's entrepreneurship in a context of developing countries, especially Sri Lanka, is thereby fulfilled as in developing countries particularly Sri Lanka, there has been very little research into women's entrepreneurship and this study attempts to fill this gap in the literature.

A. *Limitations of the Study*

There are considerably a few limitations in this study which opens avenues for additional research. Due to the practical limitations to perform, the researchers have only considered women entrepreneurs who are above 18 years of age for the study with the limitation to the Kandy District, Sri-Lanka. This comprehensive study, though meticulously carried out, faced quite a few difficulties due to the inability of approaching the geographical area considered, as for the prevailing pandemic situation. This led to the collection of data to be carried out through self-administrated telephone questionnaires, which provided us with the essentials in order to ensure the objectives of the study were met and questions were answered yet would have been enhanced if for the ability of physical approach towards the geographical area of study.

REFERENCES

- Abeyasekera, Asha, and Harini Amarasuriya. 2010. "Why Aren't We Empowered yet? Assumptions and Silences Surrounding Women, Gender, and Development in Sri Lanka." *Charting Pathways to Gender Equality* (June):1-26.
- Ahmad, Noor Hazlina, Yuliani Suseno, Pi Shen Seet, Pattanee Susomrith, and Zaiben Rashid. 2018. "Entrepreneurial Competencies and Firm Performance in Emerging Economies: A Study of Women Entrepreneurs in Malaysia." *Contributions to Management Science* (January):5-26. doi: 10.1007/978-3-319-59282-4_2.
- Ahmed, Yimer Ayalew, and Brajaballav Kar. 2019. "Gender Differences of Entrepreneurial." *Academy of Entrepreneurship Journal* 25(2):1-6.
- Binder, Julia Katharina, and Frank Martin Belz. 2015. "Sustainable Entrepreneurship: What It Is." *Handbook of Entrepreneurship and Sustainable Development*

Research (June 2015):30-71. doi: 10.4337/9781849808248.00010.

Bosma, Niels, Stephen Hill, Aileen Ionescu-somers, Donna Kelley, Jonathan Levie, and Anna Tarnawa. 2020. *Global Entrepreneurship Monitor*.

Eroglu, O. a. M. P., 2011. "Entrepreneurship, National Culture and Turkey." 2(16), pp. 146-51.

Frese, Michael. 2009. "Toward a Psychology of Entrepreneurship - An Action Theory Perspective." *Foundations and Trends in Entrepreneurship* 5(6):437-96. doi: 10.1561/03000000028.

Ranasinghe, S. B., 2008. Factors contributing to the success of Women Entrepreneurs in Sri Lanka. *Sri Lanka Journal of Advanced Social Studies*, 1(2).

Saunders, Lewis, Thornhill. 2013. *Research Methods for Business Students*. Vol. 30.

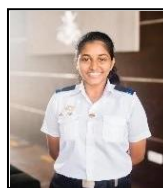
Sekaran, U. 2003. *Research and Markets: Research Methods for Business - A Skill Building Approach*.

Senanayake, Premaratne, and Wimalaratana. 2015. "Informal Sector and the Economy in Sri Lanka: A Survey of Literature." *Journal of Economics Development* 22(3):141-60. doi: 10.24311/jed/2015.22.3.07.

ACKNOWLEDGMENT

We would wholeheartedly extend our profound gratitude towards Dr. K.R. Ambepitiya, the supervisor for the research, for her consistent support and invaluable guidance. Our humble appreciation and respect to General Sir John Kotelawala Defence University for the knowledge and experience gained throughout our tenure of study. Further, our utmost appreciation goes out to Mrs. H.M.A.S Herath, for the valued guidance given in order to contact Mrs. Anoma Paranthara who offered their priceless contribution towards the gathering and collection of the data required for our study. Last but not least, we would be respectfully thankful for the women population from the Kandy District, who actively engaged with us to provide with the necessary data required to fill in the research questionnaire, which certainly made this study, a mere success.

AUTHOR BIOGRAPHIES



Helani Fonseka is an Undergraduate at General Sir John Kotelawala Defence University reading for a BSc in Logistics

Management, specializing in the field of Supply Chain.



Andrew Rathnayake is an Undergraduate at General Sir John Kotelawala Defence University reading for a BSc in Logistics Management. He is specializing in the field of Transport.



Dinendra Kasthuriarachchi is an Undergraduate at General Sir John Kotelawala Defence University reading for a BSc in Logistics Management, specializing in the field of Supply Chain.



Ramesh De Silva is an Undergraduate at General Sir John Kotelawala Defence University reading for a BSc in Logistics Management, specializing in the field of Transport.



Dr. Kalpana Ambepitiya is a Senior Lecturer at General Sir John Kotelawala Defence University; supervisor for this research who gave the fullest support to this research group for successful completion.