International Conference on Applied Social Statistics (ICASS) - 2019

"Optimizing on Innovations in Quantitative Research"

Conference Proceedings

5th December 2019

Department of Social Statistics

Faculty of Social Sciences

University of Kelaniya

Sri Lanka

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Message from the Vice Chancellor
University of Kelaniya

It is indeed a pleasure to issue this brief message on the occasion of the 1st International Conference on Applied Social Statistics organized by Department of Social Statistics. Knowledge creation and dissemination of new knowledge have become key words in the present day context of University education. The role played by higher educational institutions vastly differ from the traditional mode of delivering education, since seats of higher learning are the places where new knowledge is created in various disciplines. There cannot be any new knowledge without empirical research derived through critical inquiry. In spite of many developments in Research & Development, I am of the view that we Sri Lankans have not reached the heights that we are capable of scaling, up to this date. Therefore, the University of Kelaniya always trying to promote research and encourage more innovations that would leave a lasting impression in our society.

I hope that the International Conference on Applied Social Statistics has been become a regular feature in the University calendar and the interest shown by academics all over the world. I would like to extend my best wishes to the organizers of the conference, the presenters and the participants. I wish the International Conference on Applied Social Statistics of the Department of Social Statistics all success.

Professor D. M. Semasinghe,
Vice Chancellor,
University of Kelaniya

Message from the Deputy Vice Chancellor
University of Kelaniya

It is a great pleasure for me to offer this message for the 1st International Conference on Applied Social Statistics of Faculty of Social Sciences, University of Kelaniya organized by the Department of Social Statistics, University of Kelaniya.

In the past few years, the Department of Social Statistics of Faculty of Social Sciences plays an important role to develop and share new knowledge among young researchers by organizing events to develop skills. I highly appreciate their 1st effort to create an International level platform to local academics to present their research work. I am sure that the International Conference on Applied Social Statistics (ICASS) will be a unique opportunity to acquire new knowledge from the foreign academics and promote academic writing and academic presenting among local academics in all Universities in Sri Lanka.

I would like to extend my gratitude to the Professor A.H.M.H.Abayarathna – The dean of the Faculty, Dr.Manjula Gunrathna - The head of the Department and the Organizing committee for organizing this conference.

Finally, I would like to congratulate the organizing committee for their successful effort of organizing this International Conference on Applied Social Statistics.

Senior Professor Lakshman Senevirathne
Deputy Vice Chancellor,
University of Kelaniya

Message from the Dean
Faculty of Social Sciences

I am delighted to convey my warmest greeting to the occasion of 1st International Conference on Applied Social Statistics, organized by the Department of Social Statistics, University of Kelaniya.

I believe the Department of Social Statistics have taken an incredible effort to make this event a success, while creating a remarkably important opportunity for researchers all over the world to extend their knowledge on research skills which is considered as important in university culture.

The Faculty of Social Science always encourage the researchers to take the best opportunities to have the best experiences which can make their carrier a success. Therefore, "ICASS-2019" provide an International level platform to those who are willing to develop their research skills. Furthermore, I believe this conference would make the platform to the researchers on the purpose of involving and achieving the best with their innovative ideas and to reach international research culture and also acquire new knowledge from the foreign academics and promote academic writing and academic presenting among local academics in all Universities in Sri Lanka.

My special thanks to the head of the department and organizing committee who worked hard for the success of the event.

Senior Professor A. H. M. H. Abayarathne
Dean,
Faculty of Social Sciences,
University of Kelaniya

Message from the Head
Department of Social Statistics

As the head of the department of Social Statistics, it is great pleasure to extend this message on the occasion of 1st International Conference on Applied Social Statistics (ICASS) 2019.

The Department of Social Statistics has successfully organized the National Research Conference on Applied Social Statistics for last five years continuously. The conference was proceeding with the participation of researchers of all the Universities in Sri Lanka. In this year, the Department has organized to initiate an International Conference on Applied Social Statistics (ICASS) of University of Kelaniya apart from the National Research Conference on Applied Social Statistics (NRCASS). The ICASS is specially focused on the academics and researchers all over the world for Social Statistics. The department is involving to demonstrate a continuous improvement from both quality and quantity and the department wish to continue this conference annually in the upcoming years.

The "ICASS-2019" is an important moment as this provides an International level platform to local academics to present their research work. And also acquire new knowledge from the foreign academics and promote academic writing and academic presenting among local academics in all Universities in Sri Lanka.

Furthermore, I extend my greetings and good wishes to the researchers those who are presenting their research findings, and also those who are making this event for the 1st time.

Dr. K.M.L.M.Manjula Gunarathna

Head of the Department,
Department of Social Statistics,
University of Kelaniya

Message from the Chairman of the Research Council, University of Kelaniya

It is with great pleasure that I issue this message on the on the publication of the Conference Proceedings of 1st International Conference on Applied Social Statistics (ICASS) 2019 organized by Department of Social Statistics in collaboration with the Research Center for Social Sciences, Faculty of Social Sciences, University of Kelaniya.

It is not only conducting research and presenting at conferences, but also publishing research findings is equally important to disseminate new knowledge for the benefit of social development.

Therefore, I am confident that ICASS 2019 will be a platform for both local and foreign participants to present their research and widen their knowledge on Social Statistics.

I congratulate the Dean, Social Sciences, Head of the Department, Director of the Research Center for Social Sciences and the Social Statistics Students' Association for organizing ICASS 2019 and wish every success.

Senior Professor N.P. Sunil-Chandra

Chairman of the Research Council

University of Kelaniya

Message from the Director, Research Centre for Social Sciences (RCSS)

It is a great honor and pleasure to wish you to the 1st International Conference on Applied Social Statistics 2019 which is organized in collaboration with Research Council, University of Kelaniya.

Dissemination of the knowledge is one of the key duties of the academics in the all over the world. The passion of presenting their research in the symposium also giving an opportunity to have an active dialogue among the academic community too. Therefore, I strongly believe that this conference will be an International level platform to local academics to present their research work, to share their knowledge and experience on various research disciplines and also acquire new knowledge from the foreign academics and promote academic writing and academic presenting among local academics in all Universities in Sri Lanka.

I congratulate all the presenters and participants to get benefit from a fruitful conference and also highly appreciate the all efforts of the organizers.

Professor M.G.Kularatne

Director, Research Centre for Social Sciences,
University of Kelaniya

Message from the Chief Organizer
ICASS, 2019

On behalf of the Organizing Committee, I warmly welcome you to the 1st International Conference on Applied Social Statistics 2019. ICASS 2019 will be the premier academic congregation that brings together research findings in the field of Social Statistics under the theme of **"Optimizing on innovations in Quantitative Research".**

I believe that the ICASS 2019 provide an International level platform to local academics to present their research work and also acquire new knowledge from the foreign academics and promote academic writing and academic presenting among local academics in all Universities in Sri Lanka.

On behalf of the University of Kelaniya, I am thankful to Professor Keun Lee, Professor in Economics, Seoul National University, South Korea for accepting our invitation as the Keynote Speaker and gracing this occasion. My special thank goes to Professor D. M. Semasinghe, Vice Chancellor, University of Kelaniya, Professor A. H. M. H. Abeyrathna, Dean, Faculty of Social Sciences, University of Kelaniya and Dr. Manjula Gunarathna, Head of the department, Department of Social Statistics, University of Kelaniya for their guidance and support in organizing this event. I had a committed and dynamic team to help me in planning and organizing ICASS 2019. As the chief organizer, I take this opportunity to offer my sincere thanks to Lecturers (Probationary) Ms. Apeksha and Ms. Dilushi, Assistant lecturers Ms. Tharaka and Ms. Lashini for their great support. Moreover, I would like to thank my most loving students for their unconditional support and contribution to make this conference a reality. At last not least I thank all academic and non-academic staff in the University of Kelaniya and every individual who has given their support, assistance and commitment for the success of this event.

Dr. H. R. S. Sulochani
Chief Organizer -ICASS 2019,
Senior Lecturer,
Department of Social Statistics,
University of Kelaniya.

Message from the Chief Editor
ICASS, 2019

It is a great pleasure for me to convey a message on the 1st International Conference on Applied Social Statistics (ICASS) 2019 organized under the STATICA major programme by the Department of Social Statistics.

Department of Social Statistics has organized the National Research Conference on Applied Social Statistics (NRCASS) 5th conclusive time and apart from the NRCASS, International Conference on Applied Social Statistics (ICASS) under the theme of "Optimizing on innovations in quantitative research" has organized 1st time in this year. I believe that ICASS also makes it unique place in the University of Kelaniya's annual events.

As a newly established department, the Department of Social Statistics is highly emphasized on knowledge creation and dissemination of new knowledge too. The International Research Conference on Applied Social Statistics is an enormous support to provide an International level platform to local academics to present their research work.

Finally, I would like to congratulate all the presenters of 1st International Conference on Applied Social Statistics 2019 for a successful academic journey.

Ms. Tharaka N. Perera

Chief Editor,

ICASS 2019,

University of Kelaniya

Table of Content

Key Note Speaker

Professor Keun Lee
Seoul National University,
South Korea

Current Position: Professor of Economics, Seoul National University

Winner of the 2014 Schumpeter Prize
President (2016-18), International Schumpeter Society
Editor, Research Policy
Member of the Global Future Council, World Econ. Forum
Former President: Asia-Pacific Innovation Network
Member, Committee for Development Policy, UN
Member of Scientific Board, Globelics (www. Globelics.org)
Former Director and current fellow, Institute of Economic Research, SNU
Director, Center for Economic Catch-up, Inc

Honors:

- Awarded the 2014 Schumpeter Award (for his book on *Schumpeterian Analysis of Economic Catch-up*, Cambridge Univ Press) by the International Schumpeter Society (Germany), 2014 July
- (first time awarded to a professor affiliated to non-Western world based college)
- Awarded the Academic Prize by the National Academy of Sciences of Korea. 2015.
- The Award for the Research on the Korean economy (Korean Economic Association: 2017, 2.
- Accepted as a life-time fellow of the Korea Academy of Science and Technology, Dec. 2011.
- Recognized as one of the 100 Talents to shine Korea in 2020. Dong-A newspaper, April 2010**.**
- Awarded the Grand Prize of the Market Economy Research by the Korea Federation of Industry, 2009, December

- The Chung Foundation Award: A Prize for best book of year, awarded by Maeil Business Newspaper, July 2009.
- Received the First SNU Research Award by the Seoul National University, 2008.
- Chung-ram Prize, 2004 by the Korean Economic Association, (best economist in Korea of age 45 or less)
- Listed in Marquis Who's Who in the World (1997, 14th edition)
- Maekyung Economist Award (Prize for the best economics article of the year: March 24 1998)

Latest book Release:

Keun Lee, *The Art of Economic Catch-up: Barriers, Detours, and Leapfrogging in Innovation systems.* Cambridge University Press, 2019/05.

Abstract: When the ladder from developing to developed countries is kicked way, this book suggests that latecomers can still catch up with their forerunners by taking detours (e.g., capability building) and flying on a balloon, meaning leapfrogging out of windows of opportunity. In this way, latecomers may overcome the failures in capability and firm size and the barrier of IPR in the North. Digging into the two black boxes of technological and organization innovations in economics, this book derives a development solution for the latecomers that is framed along the catch-up paradox, such that one cannot be able to catch up if s/he just keeps catching up. In other words, eventual catch-up and overtaking require economies to pursue a path that differs from that taken by the forerunners.
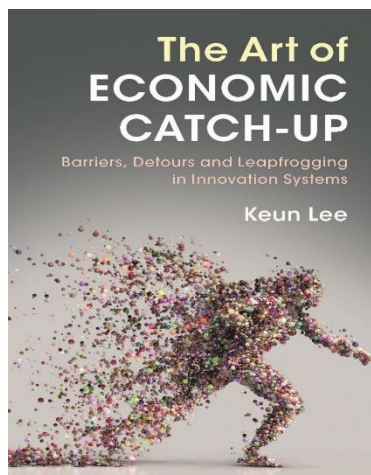
Does Aging Population Strain on Economic Growth in Sri Lanka?

G.Y.N Gunathilaka[1]

Introduction

Increase in life expectancy and the decline in fertility rate increase the elderly population in a country making an imbalance in the population pyramid. By the year 2050 approximately two billion people will be aged 60 years and over and 400 million people will be aged 80 years and over globally (United Nations, 2013). Population aging has become a global phenomenon which has significant impacts on economic areas and it is both a triumph and a challenge. Increase in aging population increase old age dependency ratio. According to Hock and weil (2012), increment in old age dependency ratio is expected to reduce the disposable income of the working population and lead to further decline in the fertility rate.

Theoretically, according to Bloom et al., (2003), increase in aging population makes positive, negative or neutral effect on macroeconomic growth in an economy. Physical capacity, consumption preferences and needs will change when an individual is getting old. An aging population leads to lower labor-force participation which will directly affect the country's level of production, savings, taxation, transfer of wealth from one generation to another and finally to slowdown the economic growth. According to Prettner (2013), older individuals tend to save more and as a result, they provide more resources for investment, which positively affects economic growth. Lee and Mason (2007) indicated that increase in the elderly population will reduce the per capita income of all three generations of child, working group, and retiree and lead to a net decrease in the family's total consumption level.

Both the developed and developing countries are currently facing economic problems of global population ageings which affect economic growth dynamics of consumption and saving patterns (Albuquerque and Lopes, 2010; Li et al., 2012), human capital (Sharpe, 2011; Gobel and Zwick., 2012), and public social spending. In the very near future, Sri Lanka is becoming a country having the oldest people in the non-developed world and also one of the fastest aging countries in the world, like a more developed country. The proportion of elderly population in Sri Lanka is higher among the South Asian countries. In 2001, over 9% of Sri Lanka's populations were 60 years of age and over, which is a relatively large elderly population for a developing country (United Nations,2003). Therefore, it is essential to examine the burden of aging population and prepare long term plans and innovations to mitigate the adverse effects of population aging. Hence, the current research and development and government policies should have to concern aging population in the country. In the context of increasing aging population, the time series analysis of the relationship between aging population and economic growth will be a significant research area for a developing country like Sri Lanka which was less focused before.

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Objective of the study

The objective of this study is to identify the nexus between economic growth with aging population and gross domestic savings.

Methodology

This study is based on the time-series data from 1980 to 2010 which was extracted from World Bank Database. To check the stationary of the series the researcher applied Augmented Dickey Fuller (ADF) unit root test. The study used multiple linear regression model in order to identify the nexus between economic growth with aging population and domestic savings. The model can be represented as follows;

$$EG_t = \beta_0 + \beta_1 \Delta GAP_t + \beta_2 \Delta GDS_t + \varepsilon_t$$

Where, EG = economic growth

$\beta_0 =$ Constant value

β_1 and β_2 = coefficients of each independent variable

ΔGAP = change in growth of aging population

ΔGDS = change in gross domestic savings

ε = error term

Normality Test, Breusch-Godfrey Serial Correlation LM Test, Heteroskedasticity Test and Variance Inflation Factors were applied to assure the model diagnostic.

Results and Discussion

Table 1: Results of Augmented Dickey-Fuller unit root test

Variable	T-statistics		Prob	
	Constant	Constant with trend	constant	Constant with trend
ΔGAP	-4.673552	-3.980508	0.0008	0.0232
ΔGDS	-6.172973	-6.060958	0.0000	0.0001
EG	-4.380778	-4.595756	0.0017	0.0049

According to the ADF unit root test (Table 1), economic growth was stationary at level while change in growth of aging population and change in gross domestic savings were stationary at first difference implying that variables are stationary at combination of I (0) and I (1).

Table 2: Results of Multiple Linear Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	4.786097	0.317650	15.06719	0.0000
ΔGAP	-1.883396	0.651164	-2.892353	0.0075
ΔGDS	0.096393	0.123840	0.778367	0.4431

Probability (F-statistic) 0.0199

R-squared　　　　　　　0.2517

According to the Table 2, the significance nexus between change in growth of aging population and economic growth is negative with -1.883396 coefficient by indicating the increase in aging population leads to decrease in the economic growth in Sri Lanka. The finding is also aligned with the results found by the recent empirical studies such as Bloom et al., (2010); Aigner-Walder and Doring (2012); Hock and Weil (2012) and Park and Shin (2012). However, finding is contrast with the results found by the empirical studies conducted by Li et al., (2012), Prettner (2013) and Lee et al., (2011).

Change in gross domestic savings and economic growth seems to be positively related in Sri Lanka under the period of study but it is not significant. This finding contradicts with the findings of Bacha (1990) and Hemmi et al. (2007).

The probability of F-statistic was significant at 5 percent level by indicating the overall model significance. But the R^2 of the estimated model was 0.251 implying that 25.1% of the variability in the dependent variable is explained by the predictors of change in growth of aging population (ΔGAP) and change in gross domestic savings (ΔGDS). The lower explanatory power indicates that existence of omitted explanatory variables on dependent variable and it may have identified as a limitation of the current study.

Table 3: Results of Diagnostic Tests

Test	Probability
Normality Test (Jarque-Bera)	0.4160
Serial Correlation (Breusch-Godfrey LM Test)	0.7159
Heteroskedasticity Test (Breusch-Pagan-Godfrey)	0.6323

Results of diagnostic tests confirms that residuals are distributed normally and the estimated model is free from serial correlation (Table 3). The probability value of BPG test indicated that the variances of the model are constant. Hence, the residual diagnostic tests revealed that the estimate model is better in predicting outcome.

Table 4: Results of Multicollinearity

Variable	Coefficient variance	Variance Inflation Factor (VIF)
ΔElder Population	0.424014	1.003585
ΔSavings	0.015336	1.025142

Results of Table 4 indicates that, variance inflation factor (VIF) values for independent variables are not greater than 10 which represents the absence of multicollinearity. This means that there is no high correlation between elder population and savings. Hence, the both variables can be added together in the regression model.

Conclusion

The results of the study depicted that there is a significant relationship between growth of ageing population and economic growth in Sri Lanka. Therefore, the popular theoretical proposition of "there will be a decreasing growth with ageing population" become true in Sri Lankan context under the period of study. Hence, appropriate policies should have to establish now in order to build competitive and productive labour force in future. In the future there will be a demand for older ager workers and government want to take necessary actions to restructure health and pension incentives, retraining opportunities and flexible adjustment of working hours to utilize it in order to maintain economic growth. Strengthening the existing counseling programmes is essential in order to enrich the mental health of the elders. Further, research is needed to investigate the expectations of aging population such as consumption behavior, pattern of savings, and expectation of working after retirement which may lead to implementation of sound economic and social policies on behalf of the aging population.

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Importance of Engineering Ethics in Business Environment- With Reference to Views of Engineering Students

D.P.S. Wijesinghe[1], V.P.T. Jayawardane[2]

Introduction

Professional engineers have a huge responsibility towards the general public and employers. Engineering Ethics guide and remind professional engineers regarding their responsibilities. However, most of the engineers have to work in business environments irrespective of their technical disciplines. Therefore, every day in their professional life engineers have to deal with ethically difficult situations in business activities. Expertise in engineering, Business Management and Engineering Ethics is highly required for professional engineers in order to discharge their services in a sustainable manner. However, existing literature reveals that majority of engineering undergraduates from most of the countries are having less interest and attention towards non-technical subjects like Engineering Ethics. Therefore, the purpose of this research was to identify the perception of Sri Lankan engineering students on Engineering Ethics.

Literature Review

Engineering profession is regulated by a set of established regulations in order to establish and maintain a high standard of integrity, skills and ethical practice in the engineering profession (Khulief, 2008). Because of that, accredited engineering degree programs offer Ethics modules for their undergraduates ("Criteria for Accrediting Engineering Programs, 2016 – 2017 | ABET," 2018). Therefore, most of the state universities in Sri Lanka, have introduced such Ethics modules for their students. The Institution of Engineers Sri Lanka (IESL), as the apex body which govern professional engineers in Sri Lanka has introduced code of Ethics for engineers ("The Institution of Engineers Sri Lanka - Code of Ethics," 2013). Those Ethics modules have been developed based on that Code of Ethics introduced by IESL. Most referred Engineering Ethics text book in the world highlights the existing negative perception of majority of engineering students on Ethics as ''Why should I study Ethics?'' Engineers and engineering students often ask this question when the subject of Engineering Ethics is raised (Harris, Pritchard, & Rabins, 2009). As engineering students are always studying technical matters, this common misunderstanding may exist during their undergraduate period. A recent research conducted by Balakrishnan & Tarlochan, (2015) focussing Malaysian engineering undergraduates, have identified majority of their students were having negative perception on Engineering Ethics. Since this kind of research has not

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yet been conducted in Sri Lanka, findings of this research will be valuable for all the stake holders of engineering.

Methodology

This research followed the qualitative survey approach for data collection. An online open ended question was given to final year engineering students of two major state universities in Sri Lanka to gather their opinions on the importance of Engineering Ethics, while paying attention to their previous industrial and business exposure during their industrial training. Those students were following Engineering Ethics module at the time of the data collection. Participant generated textual data from the survey were qualitatively analysed to identify their perception.

Results & Discussion

More than 300 responses were received for the given question. All the students who had responded to this question have positively expressed their perception as views and opinions on Engineering Ethics. No participant had given a negative comment for this question. Some excerpts from students' responses have been included in this section for better understanding.

> *"To work and survive as Engineers, Engineering Ethics is important. It helps to resolve the problems in engineering profession"*

It is not enough to graduate as an engineer. He or she should have the ability to work and survive as an engineer in the society (Unger, 2000). This student has identified the importance of Engineering Ethics as it resolves the problems in engineering profession and is the secret of long term survival.

> *"Ethics shine our professional engineering life"*

Working according to engineering ethics, earns reputation for the professional engineers (Lynch & Kline, 2000). Unethical decisions and behaviours of engineers eventually tarnish the reputation and they will lose their social status. So, it is almost up to the relevant engineers to make their professional engineering lives shine by applying Engineering Ethics or not.

> *"In a year, we will be in a company with a job where we will face many problems. Engineering Ethics will help us to solve them in good manner in business environments"*

Facing problems and finding solutions for them is not a new thing in personal life and also in professional life. Solving problems is a major duty of professional engineers. But, in that case engineers should ensure that their solutions have minimum negative impacts or harm to the relevant parties involved. Engineering Ethics guide engineers to solve problems in good manner or fair way.

> *"Engineering Ethics is a very important subject. I am very happy to learn it. During my training period, I felt this needed very much."*

This student has recognized the importance of Engineering Ethics with the completion of the industrial training. There are many occasions where trainee engineers face ethically problematic situations. In such situations, students tend to rethink about that situations and try to learn from them to avoid such kind of controversies in their future professional works.

> *"Engineer can affect a mass population with a simple careless action. Therefore, engineers need to be disciplined and care for code of Engineering Ethics"*

Most of the engineering students aware about the consequences of careless actions of minority of engineers. Those careless actions sometimes affect mass population and even unborn future also (Shuriye, 2011). That is why this student recommend engineers need to be disciplined

> *"Engineering Ethics should be taught to engineering undergraduates from their first year. It will reduce the uncivilized practices of them during undergraduate period and in future professional lives"*

This student is emphasizing the importance of teaching Engineering Ethics for engineering undergraduates from first year. He or she expects a reduction of uncivilized practices like ragging and harassing of fresher students by senior students in universities. According to this student, teaching Engineering Ethics from first year of engineering undergraduates is one solution to reduce ragging and other sort of misbehaviours of engineering undergraduates in Sri Lankan universities.

Conclusion & Recommendations

Majority of engineering students in Sri Lanka demonstrate having a positive perception towards the importance of Engineering Ethics module for their future profession. As future research works, it is better if engineering academics can identify the most effective teaching methodologies for teaching Engineering Ethics focusing Sri Lankan social, political and business environment.

Key Words: *Business; Engineering Ethics; Professional Engineers; Undergraduates*

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Issues and Concerns of Pesticide Use in Agriculture: Exploring Facts from the Malwa Region of Indian Punjab

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Introduction

The Malwa region of Indian Punjab face a lot of environment and health issues due to the hazards, excessive, and unsafe use of pesticides, fertilizers, and poor groundwater quality. Cotton crop failure owing to white fly attack in Malwa region of Punjab in 2015 has proved environmental and climate changes have affected cropping pattern adversely that further leads to economic crisis of agrarian community.

Objectives

Given the current agrarian crisis in the Malwa region of Punjab, the main aim of the current project is to evaluate the socio-economic externalities of pesticide use in selected areas of the region.

Specific objectives of the study are:
- A. To study the socio-economic externalities of pesticide use in the selected areas of Malwa region of Punjab;
- B. To assess the factors responsible for extensive use of pesticides for cotton crop in view of the current crisis;
- C. To suggest appropriate guidelines for regulating the safe use of pesticides

Methodology

A total sample of 120 farmers and 80 agricultural labourers (including women labourers) from four selected villages in equal numbers are randomly chosen to study the socio-economic externalities of pesticide use in the region. Ten pesticide dealers, five from each district are selected to know the information regarding pesticide, insecticide and herbicides currently in use by the farmers for various crops. To measure economic, social, environmental and health externalities , the present study is heavily relied on the methodology adopted by Khan et al.(2002).Formal survey and case study methodologies are conducted to collect evidence on health hazards, production losses due to pest resistance etc. The

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secondary and scientific case studies are used to collect the information related to the environmental impact of the use of pesticides

Results and Discussion

The study found highly hazardous pesticides in ambient air and soil samples that further results in various health issues such as cancer emergence, death fatalities, premature hair greying, reproductive abnormalities and miscarriages. The Study also found that farmers, labourers (farmers hire for spraying practices) and cotton pickers (men, women and children) have not adopted any protective equipment such as gloves, shoes, shocks, etc. that result in health hassles, which ends with monitory loss (treatment costs, job leave) and productivity loss (physical weakness). The primary health issues for cotton pickers and the labourers are facing skin problems, cough, eye irritation, flue/fever, headache, etc. Monoculture cropping pattern was highly witnessed during survey as compared to the past where crop rotation was performed i.e. crops belonging to leguminous family followed by cotton crop but now large area is covered by only paddy crop, having nature of higher water requirements and state already witnessing shortage of potable water in the area under study. The study also found that banned pesticides are easily available in the market and is used. The economic cost of pesticide is found increasing for paddy and cotton due to resistance of pest.

Conclusion

The study suggested few measures to lower the impact of pesticides on livelihood of the farmers and other people engaged with the occupation of agriculture. Awareness should be heightened by government, agricultural institutions, NGOs etc. to enhance the effective use of pesticides and also early assistance is required for pest identification and their timely management as farmers mostly use pesticides application before the emergence of pest to control them on early stage. To lower the impact of hazards pesticides farmers should be facilitated with lower cost bio-pesticides and import of improved seed varieties that would lead to higher income for farmers as yield of various import vegetable seed varieties is higher as compare to the local research varieties. Mechanization as a substitute of manual spraying practices is viable solution for effective pesticide use, to reduce labour costs, time, and the health problems such as availability of machine Boom Sprayer by United Phosphorus Ltd.   The study further suggests adoption of Integrated Pest Management (IPM) and Insecticide Resist Management (IRM) techniques can contribute to food and environment safety.

Key Words: *Pesticides, Cotton, Rice, Integrated Pest Management, India*

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Assessing the Glass Ceiling Effect on Women in the Tourism Industry of Sri Lanka

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Introduction

Tourism is one of the major industries in Sri Lanka that under the service sector and more specifically belong to the accommodation and food service activities. The annual report 2018 highlighted that the tourism industry has recorded substantial growth 11.6 in percent in year 2018 while achieving earning to US dollars 4.4 billion. Also Sri Lanka is one of the highly attracted country with different cultures, archaeological place, adventurous places, historic places, natural places etc. There by the tourism industry witnessing an investment to fulfill the demands of increasing number of tourists. The annual report 2018 has emphasized that tourist arrivals has recorded a substantial growth of 10.3 percent in 2018 in compared to 3.2 Percent growth in year 2017. Sri Lanka has attracted more tourists through a successive agendas with heritage, culture, nature, accommodation, foods, services, recreation etc. Thereby employment opportunities also emerged in in each and every related fields of tourism such as hotels and restaurants, travel agents and tour operators, airlines, agencies providing recreation facilities, tourist shops, guides, national tourist organization, and state sector as well. Central Bank 2018 share that there was a decline in female labour force by 6.7 percent in 2018 where compared to 2017. This decline is not only from the tourism industry but also from all the economic sectors as a whole.

Statement of Problem

According to the statistics in Central Bank (2018) when considering the employment status of the population with reference to gender, it shows 34.5 percent of female employees and 65.5 percent of male employees.However the study emphasize not on the employee status but on the employer status. Central Bank (2018) further emphasized that 87.3 percent of the employers are male while only 12.7 percent of employers are female. Thereby the problem of the study is why the "employer" status is at extremely lower level for females than males. The lower level of "employer" status or difficult in reaching higher positions or barriers to move to the managerial status is commonly known as "Glass Ceiling". The current study emphasized on finding the Glass Ceiling effect on females in the Tourism Industry in Sri Lanka.

Objectives of the study

The general objective of the study is to identify the importance of eliminating the Glass Ceiling effect on females in the Tourism Industry in Sri Lanka. The specific objectives of

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the study are to examine the presence of Glass Ceiling in Tourism Industry, to identify the factors which are responsible for creating Glass Ceiling effect, to evaluate the factors which influence women towards career advancement, to evaluate the relationship between Glass Ceiling and Women Career Development, and to eliminate barriers on Glass Ceiling effect on female in the Tourism Industry of Sri Lanka.

Methodology

The research methodology indicates both the research design details and research methods of the study including the population of the study, sampling method, the sample of the study, data collection methods, data organization methods, data analysis methods, data analysis methods and data analysis tools. When considering the type of the study, it can be identified the study is a correlation rather than a casual study where the researcher formulating correlations between each independent variable and dependent variable. The study mainly focuses on three factors such as organizational, socio-cultural and personal which are identified through the literature review. The independent variables are measured by using instruments with five point likert scale while the dependent variable is measured as a dichotomous variable. In this research study examines the relationship between organizational practices, socio-cultural norms and practices, and personal circumstances from the perspective of female workers in the tourism industry of Sri Lanka. Therefore, the unit of analysis was at individual level, the female employees. This study continues with the online questionnaire to collect data. The target population of this study is consisting of female employees working in the hotel considered as a case include to tourism industry in Colombo district of Western Province, Sri Lanka. The researcher has selected a hotel at ease to collect data where 350 employees are working at where 220 employees are female. The study has selected 100 female employees by stratified random sampling technique. Descriptive analysis and chi-square analysis were used to analyze data. Statistical Package for Social Sciences (SPSS) version 19 and Microsoft Excel computer packages were used as tools to analyze data.

Results and Discussion

The Glass Ceiling is one of the compelling metaphors for examining inequalities between men and women in the workplace (Bombuwela & De Alwis , 2013). Also Chernesky (2008) stated that set of barriers which is transparent, thus the ceiling is transparent and on the same time it is very strong to break. Thereby the women require an extra effort to break the Glass Ceiling. However, the "Glass Ceiling term is a composition of two words where "Glass" means the transparency of the top and "Ceiling" implies the limitation or the constraint or the boundary of moving upward is not immediately apparent and it is unwritten and unofficial. Organizational factors reflects the organization as the barrier on the responsible party for the lack of performance at the workers and organizational structure and practices influence the Glass Ceiling for women employees (Bombuwela & De Alwis , 2013). The study could have identified that there are insights for women in the organizations from the

early career such as pay for similar work, discrimination, harassment (exclude sexual) in the work place, and lack of family friendly work place policies etc. Women managers are tending to receive lower level of pay, promotion, work assignments, and training opportunities than male managers.

On the same time Afza & Newaz (2008) has mentioned that men in the managerial positions are more prefer who are similar to them in culture which is known as homo-sociality. This preference due to self-reflection, relaxation, and social support. Thereby the attitude of males towards the females and their own perception on their tenure at the organization is one of the factors that block females from reaching higher positions in management. Not only the perception of homo-sociality but also the employers' attitudes of women as a group that their absence from work more often than men due to childcare and family responsibilities. This also make help in keep females away from the higher positions in the management. Socio-culture factors refer to the beliefs, traditions and perceptions that influence to the Glass Ceiling Effect for females as socio-cultural factors.

Since socio-culture is more supportive to male for promoting higher positions than females and there are very few people even in the family to support female to climb the career ladder. Ravi & Srivastan (2008) in Bombuwela & De Alwis (2013) emphasized that Glass Ceiling is a myth and it is an issue created by own self of employees. Also study concluded that low confidence of management in women as leaders in one of the main barriers of Glass Ceiling for women as a personal factor to Glass Ceiling effect.

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Capital Structure and Firm Performance: With Special Reference to the Commercial Banks and Manufacturing Firms in Sri Lanka

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Introduction

In addition to the other financial services, commercial banks are institutions that play a pivotal role in financial intermediation. They play an imperative role in an economy especially financing economic activities. Improvement in the performance of commercial banks would in turn increase their role in an economy (Terraza, 2015; Sufian, 2011; Pasioura & Kosmidou, 2007). In addition to that the manufacturing sector of a country plays a vital role in boosting the economy through value addition and it is the second largest sector in the Colombo Stock Exchange (CSE). Further, number of manufacturing firms in Sri Lankan context is growing rapidly, as indicated by number of companies listed on the CSE drawing our attention back to the sector today.

For both the sectors, capital structure decision is an important decision since the profitability of an enterprise is directly affected by such decision. Capital structure is described as the combination of debt and equity. One crucial issue challenging to the managers today is how to determine the combination of debt and equity to achieve optimum capital structure that would minimize the firm's cost of capital and improves return to owners of the business (Vitor & Badu, 2012).

The study identified the firm size as a variable of scholarly interest, due to the fact of, it's traditionally having much explanatory power, and an understanding of its importance, which has identified as vital for managers who operate in today's competitive environments (Kioko, 2013). In today's world, being on the phenomenon of economies of scale, the size of a firm is taking as a crucial factor for a firm's success. However, modern corporate firms also, seem to be looking to increase their size so as to get a competitive edge over their competitors through multiple ways (Luqman, Ilo, Lawal, & Fatai , 2017).

 The study will make multiple contributions to the literature on capital structure, firm size and financial performance through the investigation of the precise composition of capital structure and firm size that maximizes the shareholders return and impacts positively on a bank's financial performance. And additionally, the study will come in handy to support the government, and regulators in their quest to streamline operations in the banking sector putting in mind that the economy as a whole inch on how the banking sector performs as inappropriate resource allocation can hinder the growth in the economy while paying attention on the manufacturing sector of the country parallel.

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Research Objectives

This study aims following objectives;

A. Investigating the relationship existing between the capital structure and firm size with the performance of LCBs in Srilanka.
B. Examining the relationship existing between capital structure and firm size with the performance of LMFs in Srilanka.

Methodology

This study is done in quantitative approach and the panel data are analyzed using a fixed effects model and random effects model on LMFs and LCBs. Further the study aimed at contributing to the debate on capital structure and firm size by examining the impact on performance of LCBs in Sri Lanka and LMFs for the period 2012 to 2017. Data were collected through the published annual reports of the selected banks. Debt to Equity (DTE) & Debt to Total Funds (DTF) ratio were used as proxies for capital structure and Log of Total Assets and Log of Sales were used as proxies for firm size. The Return on Equity (ROE) & Return on Assets (ROA) were used to measure bank and firm profitability. Finally, the impact of capital structure and firm size on profitability is analyzed using descriptive statistics, correlation analysis and regression analysis using the pooled regression model; fixed effects model and random effects model.

The following regression models were used to analysis the data after satisfying preliminary requirements such as multicollinearity.

$$ROA/ROE = \alpha + \beta1\ DTE\ it + \beta2\ DTF\ it + \beta3\ TA\ it + \beta4\ TS\ it + \mathcal{E}\ it……………..01$$

> Where: α: Constant
>
> ROA: Return on Asset
>
> ROE: Return on Equity
>
> DTE: Debt to Equity
>
> DTF: Debt to Total Funds
>
> TS: Log of Total Sales
>
> TA: Log of Total Assets

Results and Discussion

The study investigated the impact of capital structure and firm size on the performance of LCBs and LMFs in Sri Lanka for the period 2012 to 2017. It found that the DTE ratio has a significant negative relationship with ROA, and a significant positive relationship with ROE in LCBs. Further, DTF has a significant positive relationship with ROE, and significant

negative relationship ROA in LCBs. Thus, the banks must consider an appropriate mix of capital structure to be adopted in order to increase the profitability of banking industry. And also, the management of banks should consider on deposit mobilization strategies so that to mobilize more funds in financing.

Further, the results confirmed that DTE ratio has a negative significant relationship with both the ROA and ROE while DTF ratio has an insignificant relationship in LMFs. Finally, both the LTA and LTS, proxies of firm size found an insignificant relationship with both the ROA and ROE in both the sectors.

Conclusion

The study investigated the impact of capital structure and firm size on the performance of LCBs and LMFs in Sri Lanka for the period 2012 to 2017. Thus this study evident that there is an impact of capital structure on profitability of LCBs in Sri Lanka. In conclusion, firm size is not a major determinant factor affecting the firm's financial performance where it's evident that there is no significant association between firm and bank size components and financial performance. But a significant effect was evident from capital structure components in determining the LMFs' profitability. Finally, the results are in support with some literature done by, Ebaid (2009), Isik, Onal & Unal, (2017) Salim & Yadav, (2012) etc.. and are contradictory with some as well.

Keywords: *Capital Structure, Commercial Banks, Financial Performance, Firm Size, Licensed Listed manufacturing firms*

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Statistical and Mathematical Models for a Sustainable Cultivation Plan - A Brief Review of the Literature

N.M. Hakmanage [1], N.V. Chandrasekara[2], D.D.M. Jayasundara[3]

Introduction

Due to rapid increase of population, demand for food is increasing. If the agricultural sector fails to supply and meet the rising demand of foods, it will affect the economy. This however requires finding viable solution that is balanced supply demand food chain. To fulfil subsistence food needs there should be a stationary state with proper cultivation plans in agricultural sector in a country.

This study presents a review of the literature published between 1998 and 2019 on cultivation plans in the areas of statistics and/ or mathematics which have considered major influential factors for cultivation. This study aims at reviewing the most appropriate sub sections: arable land selection, cultivating methodologies and climatic factors effect on cultivation to build an optimal cultivation plan. Review was conducted using separate articles as searching strategy was failed to identify published articles which studied for these three aspects together. Hence the significance of this study is to discuss how to apply statistical and/ or mathematical models which are used to implement the cultivation plan including all influential factors together.

Methodology

This study investigated statistical and/ or mathematical models/ methodologies that can be used to develop an optimal cultivation plan. Following search terms were used in this study: cultivation plan, agricultural plans, development of agriculture, arable land selection, climatic factors effect on cultivation, cultivating methodologies, optimal cultivation plans. First searching round based on the keywords which are located within the text instead of being matched to subject headings. Then move to the advanced searching, that is, chose to add Boolean operators AND, OR and NOT. These strategies yielded about 50 articles that were closer to the topic of interest published between 1998 and 2019 Among the 50 references initially identified, 25 were excluded after review of the titles and abstracts or else non-English publications and research which are not under mathematical background.

Results

A systematic way to select a suitable land for cultivation proposed by Elsheikh, is Agricultural land suitability evaluation (ALSE), an intelligent system for assessing land suitability considering spatial geo-environmental factors such as soil, climate, slope, erosion and flood hazard. Factors were weighted under supervision of expertise and then

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eigenvalues and eigenvectors of a weighting matrix were calculated and suitability of land was detected using GIS (Elsheikh et al. 2013). In 2010 Astee L.Y discussed viability of rooftop farming by considering several factors in his study. They concerned several design constraints for existing block typologies and rain water harvesting and was able to increase the production by 30.5% (Astee & Kishnani, 2010).

In order to achieve high quality cultivation products, Gruda shows that indoor production is more profitable than outdoor production for vegetables based on quality of the product. The reason was mentioned as; indoor productions do not expose directly to the rapid climatic changes (Gruda, 2005). Geographical changes like availability of slopes, mountains and urbanization is challenging to the horizontal farming in most agrarian countries and one of the most suitable solution proposed by Besthorn is vertical farming (Besthom, 2013). Further ALSE can be used for selecting suitable type of crop to cultivation in selected lands (Elsheikh, 2013).

Climatic changes have a significant impact on smallholder and farmer's profitability. Using Mann-Kendall statistical analysis, Nikhil, identified the characteristic of seasonal and monthly rainfall. Kendal's rank correlation statistics and wavelet analysis can be used to find trend of rainfall (Nikhil & Azeez, 2012). Seasonal variation is important as different crops require water at different times. Erratic pattern can be identified via trend analysis on temperature data. A time series forecasting model called Seasonal ARIMA model was proposed by Abdul to forecast rainfall with minimum Bayesian Information Criterion (BIC) (Abdul-Aziz et al., 2013). Developing a linear programming model for water resources planning and management to cultivation regions can optimize the exploitation from surface water resources and decision makers to determine suitable cultivation pattern (Daghighi, Nahvi & Kim, 2017). To build a sustainable cultivation plan, optimization models can be used to recommend a crop type, suitable time period and land.

Final remarks

Worldwide trend toward standardization of the agricultural process with optimal cultivation strategy was observed, especially concerning the influential factors of the cultivation in the literatures. For selected crop's cultivation, mathematical models were developed for selecting arable lands. By developing an optimization problem for water resource management system for farmlands have increased 8% of the net profit. Further, this water management model can be implemented by considering all other factors which are basic needs of cultivation.

Conclusion

Suitability of land for cultivation, optimal land allocation and crop type identification can be done with linear programing or by introduced method of ALSE by Elsheikh. Using time series models, climatic conditions of the cultivating period can be forecast by considering climatic factors effect on selected crops. Through investigating various optimization

models, linear programing model can be implemented including all considerable factors of cultivation.

Key words: *Forecasting, Optimal cultivation plan, Linear programing, Time series*

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Socio-Economic Determinants of Domestic Solid Waste Generation: Special Reference to Kesbewa Municipal Area, Sri Lanka

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Introduction

The generation of Domestic Solid Waste (DSW) has become a growing environmental and public health problem, specifically in developing countries (Bandara et al, 2007). So the DSW management is a significant role of urban authorities and it is straightly interrelated with the protection of environmental wellbeing and human health and also it is indirectly interrelated with living standards of people. The rapid increase in solid waste generation due to accelerated urban population growth, unplanned urbanization, and increasing economic activities, has become a crucial problem in all countries regardless of the development status of them (Kwetey, 2014). With the current stage of rapid urbanization, relevant authorities in Sri Lanka are also suffering serious difficulties in addressing this problem. The waste generation amount in Sri Lanka has increased from around 6,400 ton/day in 1999 to 10,786 ton/day since 2009 due to the economic growth after the end of the civil war (JICA, 2016). According to critical view of literature, there are lack of preliminary and regular study has been conducted in Sri Lanka on this concerns. Sri Lanka does not draw attention to this problem may be heightened in the future in many folds than it is today unless alternatives are designed to address it and also findings of this study can be used to get information to implement the management system for solid waste.

Research Problem

The generation of DSW has become a growing environmental and public health issue. Generation of DSW is the path to generation of municipal solid waste which became a highest socio economical and health issue in developing countries. So the research problem of this study is to find what the major socio economic factors that affecting the DSW generation in Sri Lanka.

Methodology

This research used both primary and secondary data. Primary data were collected from 84 households situated in Kesbewa municipal area using stratified random sampling method with the structured questionnaire and interviews during the period from 5th March to 28th March, 2016. Secondary data gained from the final report of the data collection survey on solid waste management in democratic socialist republic of Sri Lanka. Kesbewa municipal area has selected as study area because although there are some solid waste management programs, urban council has quite failed to formulate any master plan or action plan related

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to solid waste management and also there is Karadiyana waste processing project in the Kesbewa municipal area.

Correlation analysis and regression analysis were used as analyzing tool of this study. The variables have defined based on the research done by Sankoh et al in 2012. Accordingly, the Ordinary Least Square regression model is used to study the percentage of solid waste generated by household per day (Y) on the household income (x_1), size of the household (x_2), extra land size within the compound of the household (x_3), distance from the center of the city (x_4) and the gender of household head (x_5) (Sankoh et al, 2012). Regression model which used to analysis purposes can be derived as below.

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + U_i$$

Results and Discussion

According to the survey results, average amount of solid waste generated by households is 2.18 kg / day. Table 1 shows the results of the correlation analysis.

Table 1: Correlation coefficients of determinants of solid waste generation

Y	Coefficient	t value	P value
Income	0.912	3.71	0.001***
Size of H/H	0.991	2.91	0.011**
Extra land	-0.502	-2.06	0. 027**
Distance	0.408	0.22	0.811
Gender	0.688	1.01	0.322

Note: *, **, *** represent the significant at 10 %, 5 % and 1 %   respectively

As per the Table 1, major socio economic factors which has higher positive relationship with the DSW generation are household income and household size while extra land has higher negative relationship with the DSW generation. Distance from the center of the city and gender of the household are not have any significant relationship on waste generation.

Table 2 shows the results of the regression analysis of the gathered data of this study.

Table 2: Regression coefficients of determinants of solid waste management

Y	Coefficient	t value	P value
Constant	3.208	1.01	0.322
Income	3.412	4.23	0.001***
Size of H/H	4.213	3.91	0.001***
Extra land	-2.105	-2.17	0. 024**
Distance	1.369	0.97	0.417
Gender	0.598	1.48	0.301

Note: *, **, *** represent the significant at 10 %, 5 % and 1 %   respectively

As per Table 2, major socio economic factors which impact the household solid waste generation are household income, size of household and the extra land size. The distance to the house from the center of the city and gender of the household are not have any significant impact on DSW generation. Size of the household is the most important factor and household's income has a significant positive impact on household solid waste generation.

Conclusion

This study identifies household income, size of household and extra land size are the major determinants of DSW generation. Households which have larger income are tend to generate more solid waste and also if the size of household is larger, those households are tend to generate more solid waste. The house-holds which have more extra land as compound they are less tend to generate DSW. Further, according to respondents' opinions it should be increase the efficiency of collecting solid waste and also it should increase the frequent of the collecting solid waste. Never the less introducing a service fee for the waste management service provided by Kesbewa municipal council have been recommended by respondents. In the case of further research, it could expand to some other municipal areas and get generalized conclusion, it will be very useful for the policy implementation on DSW management.

Key words: *Municipal area, Socio-economic Determinants, Solid Waste Generation, Solid Waste Management.*

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A Study of Issues related to Empowerment of Female-Headed Households in Rural Areas in Sri Lanka

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Introduction

Women empowerment enables women to identify their latent potentials and skills in decision making, active participation and implementation of policies and programmes. According to that, main feature of empowerment process is having power to control materials, wealth, intellectual initiatives and ideologies and this process has related to welfare, uplifement, community participation and poverty alleviation (Batiwala, 1995). Female-Headed Households (FHHs) is a new structural form of household and this type of households have become significant phenomenon in the last half of 20th and 21st century (Baros, Fox & Mendonca, 1994). "Female Headed Households are households where either no adult males are present, owing to divorce, separation, migration, non-marriage or widowhood, or where men, although present, do not contribute to the household income, because of illness or disability, old age, alcoholism or similar incapacity" (ABC of women workers' rights and gender equality, 2007:81). Recently, it can be identified a marked increase of Female-Headed Households (*FHHs*) in Sri Lanka. According to the most recent Household Income and Expenditure Survey *(HIES)* 2016, out of 5.4 million households in Sri Lanka, 1.4 million households or 25.8 percent of the households were female headed (Household Income and Expenditure Survey Final Report, 2016). Although FHHs have occupied a prominent place in development discourse globally, very limited researches have been conducted regarding women empowerment related to *FHHs* in Sri Lanka. As a result, there are some knowledge gaps in policymaking and development discourse regarding *FHHs*.

Methodology

Accordingly, the main objective of this study was to identify the social issues related to empowerment of women heads in rural areas. This empirical research was conducted in five *Grama Niladari* divisions of *Galgamuwa* divisional secretariat division which conveyed a marked increase of *FHHs* in Sri Lanka. Data were collected from a hundred *FHHs* through purposive sampling method. Questionnaires and semi-structured interviews were used as primary data collection techniques. The research was conducted based on the survey method.

Results and Discussions

Generally, head of household has power and authority to apply control for family affaires and it has originated from moral conditions or legal obligations. According to Mencher,

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there are four elements of the concept of the head of household. They are, Authority or Power, economic power, Decision making and rights to the children (Rochelle, 2007). Power and authority are attributed in most patriarchal societies to women mainly due to the disappearing of the male person of the household. It could identify that there was also an attitudinal issue inside women. They identified authority and power to make decisions as a difficult responsibility rather than an opportunity. Even after assuming headship of the household, women have tended spontaneously to depend on others specially on a male figure as soon as possible. This is mainly a result of subordinate mentality which has created from childhood in male dominant societies.

Membership of community organizations illustrates a significant cross-cutting of the social profile of individuals. A majority (99%) of *FHHs* had obtained membership of death donation organization and *Samurdhi* organization (79%). But importantly, it could be identified that majority of *FHHs* (80%, 66%, and 55%) had not obtained memberships respectively of the women development organization, water organization, and farmers' organization. According to above data, it infers the idea that most of FHHs have obtained membership of community organization based on their benefits not because of any other motivational factors. For instance, obtaining membership of death donation organization and *dayaka samithiya* considered as essential in a village community. As well as membership of the *samurdhi* organization is essential for *samudhi* beneficiaries, farmers' organization's membership for farmers and membership of water organization under water sources or drainage board. But when considering women development organization, they had not considered the importance of becoming members of women's organization. Personal development, women leadership or women empowerment had not been a significant or essential part of living of majority of *FHHs*. Mainly women development organizations are empowered and authorized by divisional secretariat in the area. Hence, it is illustrated the factor of lack of effectiveness of existing empowering methods in the community to stimulate women leadership, skills, latent potentials and to enhance involvement of decision making and improving infrastructures to enhance stability of living standards of *FHHs*. Only a few proportions of women heads (10%) had participated for self-employment training. Lack of motivation towards new trends of income-generating sources and unwillingness to change their familiar safe-zone had highly influenced the limited tendency to involve in activities related diversification of income-generating sources and livelihood of *FHHs*.

Most of the current government programmes have related to the financial and physical allowances and has influenced to create a dependent mentality and to decrease the motivational factors among *FHHs*. Majority of FHHs in the sample (73%) had been benefitted by any kind of public financial source such as Samurdhi, allowances for disabled persons or "*Pin Padi*". In one hand, it has become a great contribution to their household income. On the other hand, it has influenced to create dependency mentality among most of women. As a result of that, a larger percentage of FHHs (75%) had requested more programmes on financial aids.

Conclusion and Suggestions

In conclusion, it infers that the low level of motivation and empowerment, inadequate awareness about skills and potentials of them and limited knowledge on true sense and importance of community development components had affected to create a negative impact within them. Based on these findings it has been suggested to introduce integrated projects based on participatory development approach and methods of social inclusion to enhance opportunities to build self-esteem and self-confidence and to identify adaptation and mitigation actions to reduce hardships and issues through empowering latent potentials and skills of *FHHs*.

Key Words: *Authority, Decision- making, Empowerment, Female-Headed Households (FHHs), Women Empowerment.*

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Sri Lankan Airlines as a Tourism Facilitattor

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Introduction

Sri Lankan Airlines is the National Airline of Sri Lanka which offers numerous facilities in order to get the maximum customer satisfaction. The airline's hubs are situated at Bandaranaike International Airport in Katunayake and Mahinda Rajapaksa International Airport in Mattala. Sri Lankan airlines operates flying over 114 destinations in 48 countries around the world. It is currently the largest airline in Sri Lanka. Every day they cater 25,000 meals and operate 24 hours and 365 days of the year. There are 800 employees working in the kitchen. It also includes fine –dining restaurant and they provide meals for the transit hotel at airport. Specially, they have fast reservation system to book through e-ticketing and time scheduling of check in. The benefit of this facility is that the customer can easily plan their traveling dates and time without going for tour operators using their own laptop or PC. There is diverse work force of 5900employees in Sri Lanka and overseas. These employees complete the training at IATA and the airline has a training school which offers two courses. They are, IATA training and the technical training. Mainly they promote the tourism with introduction of many programs such as tour packages, air taxi service for tourist attractions and micro tourism. According to that information, I believe the Sri Lankan Airline is one of the best organizations to implement and research marking strategies. There are lots of advantages for choosing this topic. The main reason is that the airline is directly linked to many businesses especially, the tourism business. Today, the tourism industry is developing faster than ever before. Each year nearly 1000000 tourists visit Sri Lanka and it is very important to provide efficient transportation to these tourists. Sri Lankan Airline has identified this and has expanded their service with domestic airline. This expands as well as the increase of tourist arrivals has resulted in the growth of other areas such as such as export and import, banking and telecommunication. Every year it creates many job opportunities and it increases the income level of all employees. There are number of services that they provide to the tourists. Such like cargo service, ground handling, mice, air taxi, etc. With the same number of facilities that they provide to the tourists. Elegant business class facilities, economy class facilities, maternity facilities, and facilities for differently able people, Wi-Fi connectivity facilities, on line seat booking facilities & etc. Likewise, the tourists will be able to experience number of facilities. The annual revenue shows that the growth of revenues. That means actually a lot of passengers carried through Sri Lankan airlines and they satisfied about the facilities of the airline. Moreover, that the more tourists used their services and experienced them a lot. That's why that we can see the growth of the growth of annual financial revenues.

Research Objective

Therefore, the focus of this paper is to investigate the facilities towards the tourists. The practice of hospitality which is one of the main segments of the tourism industry in the view of facilitating the tourists whom travel through Sri Lankan airlines.

Methodology

The survey was conducted as an exploratory study highlighting. The study was based on both primary and secondary data including observations, questionnaires, books, magazines etc. The practice of hospitality which is one of the main segments of the tourism industry in the view of facilitating the tourists whom travel through Sri Lankan airlines. To achieve this motive, the researchers explored a random sample of 10 tourists at the Bandaranayke international airport.

Analysis and Results

The results of the study revealed, this airline is a very popular and dedicative airline because it expanded their services to many sides such as inventing a budget airline Mihin Lanka, online bookings, promoting holiday packages, domestic airline, technical training and airline training. As other services can be mentioned the cargo and catering. The ultimate goal of this airline is to offer a best customer service in order give a memorable and unique travelling experience to the tourists. This eventually makes repeating tourists as well as a very good reputation.

The aircrafts are consisted with comfortable economy class and business class seating with the latest technology including onboard TV, radio, games and number of entertainments. The airline has their own catering service and they always consider about the hygiene of the food in order giving an excellent customer service.

Conclusion

Finally, the research suggests that the Sri Lankan airlines doing an excellent job in providing excellent facilities to the tourists and can be recommended as on one of the best airlines in the world.

Keywords: *Airlines, Airport, Customer, Facilities, Service*

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A Study of Underrepresentation of Women in Higher Managerial Positions in Logistics Industry in Sri Lanka

T. M. Kosgoda [1], A.K.C.H. Jayasundara[2]

Introduction

Women have made a remarkable move in workforce participation in Sri Lanka. Researchers have shown that women's participation in strategic decision making is vital to the organization's success and there are visible and invisible challenges that hinder women when reaching higher management positions. However, little is known about the representation of women in the higher managerial positions in the Logistics industry in Sri Lanka. If the women's participation in strategic decision making is vital to the organization and if little is known about the representation of women in the higher managerial positions in the Logistics industry in Sri Lanka, then more needs to know why the current percentage in women's representation in top management positions is low. The purpose of the study is to explore "Why women are underrepresented in the higher managerial positions in the Logistics industry in Sri Lanka".

Research Questions

What are the problems faced by women not to take higher managerial positions in Logistics Industry in Sri Lanka?

Research Objectives

To identify the factors why women are not holding higher managerial positions in Logistics Industry in Sri Lanka

Research Methods

Conceptual Framework

The conceptual framework in Figure 1 shows how the literature discusses the barriers that hinder the women's upward mobility and the influences that lag behind the decision to take up higher managerial positions by the female. This conceptual framework is in line with the model developed by Mohajeri & Mousavi (2017, P:23)

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Figure 1: The relationship between the Factors Affecting for Women not to Take up Higher Managerial Positions
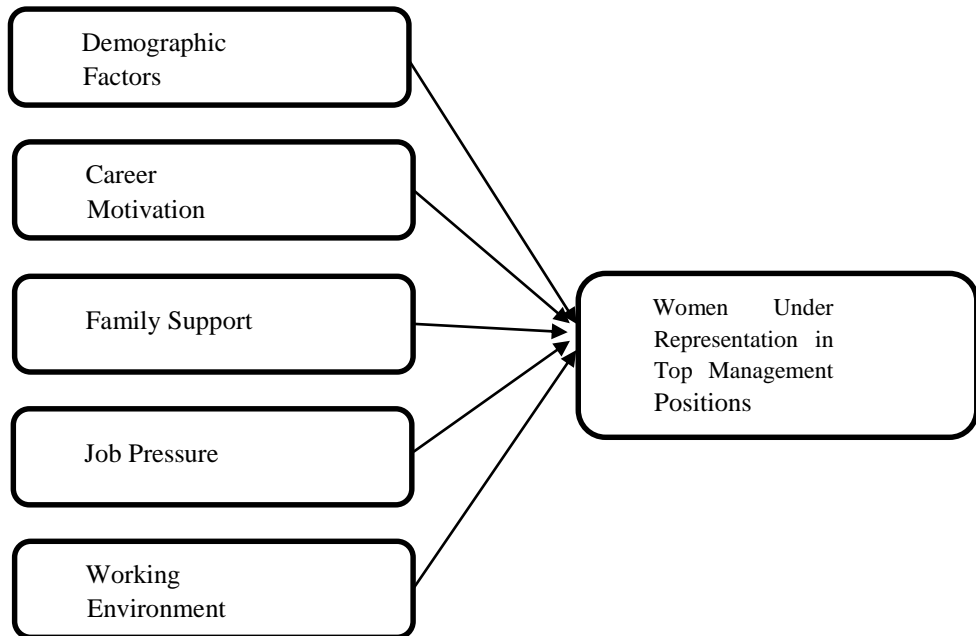
Source - Developed by the Author (2019)

Formulation of Empirical Model

The formulation of the empirical model of the research was developed based on the conceptual framework of the study as shown below.

$Y_i = f(\beta X_i, \beta X_{i2}, \beta X_{i3}, \beta X_{i4}, \beta X_{i5})\ Err$

Where; Y *= Vectors of Women Under Representation in Top Management Position*

$X1$ *= Vectors of Demographic Factors*

$X2$ *= Vectors of Career Motivation*

$X3$ *= Vectors of Family Support*

$X4$ *= Vectors of Job Pressure*

$X5$ *= Vectors of Working Environment*

Err   = Error Term

Sampling Profile

The target population for the quantitative study was 100 female executives in the logistics companies around Colombo whom were selected using the convenient sampling method while purposive sampling technique is used get data from 10 industry experts for the qualitative research (Etikan *et al.*, 2016).

Data Collection Method

For the quantitative research structured questionnaire is used while for the qualitative research interview method was used.

Data Analysis

The study has used a mixed approach of quantitative and qualitative. For the quantitative component, linear regression model is used with the aid of SPSS (25) while for the qualitative study Thematic approach is used.

Results

Sample Adequacy

Further, in SPSS a handy option is there to test out whether the sample is big enough. Sample adequacy is tested through KMO-test (Kaiser-Meyer-Olkin-test). Here the KMO is 0.665. Therefore, it is in line with the theory and the sample can be regarded as adequate.

Reliability Test

The internal consistency was assessed from the reliability test. Simply it explains the degree to which the items that make up the scale are all measuring the same underlying attribute (Pallent, 2011). The Cronbach's coefficient alpha is used in SPSS as a statistic model in common. The Cronbach's alpha values range from 0.486 to 0.810. In here, except for one variable (Family Support: 0.486) the rest of the Cronbach alpha values are above 0.60, which is acceptable as minimum coefficient required was 0.60 as per Nunnally (1967).

Goodness of Fitness and Model Fit

According to analysis, $R^2 = 0.794$. It means that 79.4 percent of the variation of weight is explained by the regression model. To evaluate the statistical significance of the results, it is required to look model fit of the variables. Here it can be seen the significance value (Sig.) is 0.001, which is below 0.05 ($p < 0.05$). This indicates that the selected variables are adequately support to see the changes of the dependent variable.

Parameter Estimates

Table 1: Coefficients

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
(Constant)	1.755	.568		3.090	.003
Experience	.003	.116	.005	.028	.978
Education	-.038	.049	-.082	-.769	.444
No of Children	-.115	.073	-.186	-1.574	.119
Age	-.093	.152	-.105	-.609	.544
Career Motivation	.286	.099	.343	2.902	.005
Family Support	.363	.120	.309	3.026	.003
Job Pressure	.042	.088	.052	.477	.635
Work Environment	-.130	.104	-.158	-1.253	.214

a. Dependent Variable: Decision to take up managerial positions

Source – Survey Data (2019)

The results show that Constant, Career Motivation and Family Support is significant as the Sig: values are less than 0.05. While, Work Environment and Job Pressure which indicate that values 0.214 and 0.635 respectively, are non- significant as those values are greater than 0.05. All the demographic variables show an insignificant relationship.

Conclusion

The study discovered a significant relationship of Family Support with women's decision to take up higher managerial positions in the Logistics industry while the Career Motivation was also found to be a significant factor. Further, it discovered Working Environment and Sri Lankan Culture affects women's career aspirations to become a manager. Significantly, Family Support is the most vital in women's upward mobility. With the enormous family support, women could find it easy to decide to take up managerial positions. Lack of family support may hinder women's career aspirations to become managers and result in the under-representation of women in higher managerial positions. Therefore, being a woman married or unmarried, a supportive background has to be created by working women. Thereby, they could find easy to climb the managerial hierarchy. Career Motivation has a clear impact on women's decisions to take up managerial positions. Women seek a career motivation depending on their financial status, and family status. Women look for flexible hours, work

from home facilities because they are in the struggle for work-life balance rather than the male workers still because of this huge attachment with families and their anticipation of being a better mother. Sri Lankan Culture has a considerable impact on women's decision to take up managerial positions. Traditional ways of thinking are a hindrance to women's upward mobility. Thus, this traditional thinking which cannot be changed overnight has to be changed over time paving an understanding culture for women to make their decisions aligned with their career aspirations. When it is coming to the reaching of higher managerial positions it is evident from different literature sources, women are lagging behind the decision to take up the higher managerial positions as several barriers hinder their career path. However, Mohajeri & Mousavi (2017), in their study state that women faced greater challenges than men, but women have better chances to be successful as women are hard working. This should be addressed at the societal and organizational level, and open for discussion, to clear these paths for women to take up managerial positions and involve women in strategic decision making that may benefit for both organization and society. Simultaneously, enhance the representation of women in higher managerial positions in the Logistics industry in Sri Lanka.

Keywords: *Women, Management, Family Support, Career motivation, Sri Lankan Culture, Workin*g *Environment*

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Factors Associated with Social Media on Consumer Adoption in Tourism (With Special reference to Kandy)

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Introduction

With the development of computer and Internet technology, social media have been widely used. During the last decade, an explosion of user-driven web technologies: blogs, social networks and media sharing platforms have been occurred. In the modern world, Social media play an important role in the consumer's decision-making procedure. The growth of social media has led to new methods of pursuing and gaining information about various products and services in the market. It has facilitated consumers to associate and discuss different service or product providers easily (Chung and Koo, 2015). As tourism is an information-intensive industry it is necessary to understand the fluctuations or the deviations in the technologies that influence on the distribution and approachability of information regarding the travel (Xiang and Gretzel, 2010). Sri Lanka, as one of the countries with high usage of social media, has more than 6.2 million active social media users while in the world its more than 3.48 billion users. Among the most popular social media sites, Facebook gets the first place with 6 million active users, while Instagram has 1.1 million active users and Twitter has 182.5 thousand users for the last year (Hootsuite, 2019). One of the main advantage of social media is that it acts as as an effective communication media in the tourism industry were found by the authors in the literature (Desai and Eric, 2015; Verma, Stock and Mc Carthy (2012): Schu- ckert et al, 2015). Through these data it is cleared that social media sites are very popular in the country and it can be used as an effective tool for marketing in the field of tourism, in order to reach very large part of population. On the other hand, Sri Lanka is one of the greatest tourist destinations. The existing literature about social media generally emphases on the features of social media. However, researches about the factors associated with social media on adoption intention in of tourism sector is rare. Therefore, this study aimed to explore the factors related to social media that effect adoption intention in tourism.

Research Methodology

In this study, a cross sectional survey method was used to find the effect of social media sites on the adoption intention of customers in tourism industry. A sample of 120 foreigners near the premises of Temple of Tooth Relic, Kandy was selected to the study sample using convenient sampling method. Convenient sampling was used in order to study a maximum number of various tourists over a relatively small period of time. Based on the literature, attributes were created. The questionnaire method was used to collect data from the sample.

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Five point Likert scale were used to collect data from different attributes. The reliability of the study was measured using Cronbach's Alpha value. The Kaiser-Meyer-Olkin (KMO) test and the spherical degree of Bartlett test was used to test the validity of the study.

Results

This study, based on the questionnaire data as the basis, through the factor analysis method, extracted the principal factors that impact tourism consumers' social media adoption intention. A principal component analysis (PCA) was conducted on the 24 items with orthogonal rotation (varimax). The Kaiser–Meyer–Olkin measure confirmed the sampling adequacy for the analysis, KMO = .846 'great' according to Field (2009), and all KMO values for individual items were > .728, which is well above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity χ^2 (253) = 2628.753, p < .001, indicated that correlations between items were sufficiently large for PCA.

Factor loadings after rotation, shows that the items that cluster on the same components suggest that component 1 represents an adoption preference, component 2 a participation, component 3 service quality, component 4 sharing, component 5 connectivity and component 6 information.

The reliability of the responses in the scale was calculated by Cronbach's Alpha statistics, and all the items were found reliable. The results of the reliability analysis and the descriptive statistics of scales are displayed in Table 1.

Table 01: Reliability analysis

Components	Reliability Cronbach's Alpha
D1: Adoption Preference	0.765
D2 : Participation	0.813
D3: Service Quality	0.799
D4: Sharing	0.775
D5: Connectivity	0.810
D6: Information	0.795

Conclusion

Six features of social media (adoption preference, participation, service quality, sharing, connectivity, information) for tourism consumers have a positive impact on promoting the adoption intentions. Tourism has become one of the key feature on the Internet. The conclusion of this study can afford reference for related tourism enterprises and departments to increase their customers.

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Impact of Intrinsic Factors on Extended Career Prospects of Women in Logistics Industry in Sri Lanka

T.M Kosgoda[1], A.K.C.H Jayasundara [2]

Introduction

Logistics and shipping are an inter-wined connection that allows the smooth flow of goods and information from point of origin to the point of destination. This industry is blooming worldwide and there is a pre-convinced idea of the industry and the perception revolving around the public mind that the logistics and shipping job is undoubtedly suitable for men but not for women. Logistics and shipping industry where there signals a lack of women's representation is mostly highlighted that, there is a "Glass Ceiling", a hypothetical term to describe the gender inequality in the managerial sector. According to the report by Women in Supply Chain (2010) the "Glass Ceiling" (Hede, 1995) has been shown to be misleading as a theory of managerial inequity in that it incorrectly implies there is only a single barrier at the top and that there are no further problems once a women break through it. However, a myriad of problems still has to be faced by women, although a woman breaks the "Glass Ceiling".

Research Questions

Accordingly, the research of the study is; What are the socioeconomic problems faced by women not to reach higher managerial positions in the Logistics Industry in Sri Lanka?

Research Objectives

The main objective is to see why women are not representing an appropriate percentage in higher managerial positions in the Logistics sector in Sri Lanka due to socioeconomic factors.

Research Design

Conceptual Framework

The conceptual framework as below in the Figure 1 shows the relationship between Intrinsic: Career Motivation, Intrinsic: Family Support, Intrinsic: Job Pressure and Intrinsic: Working Environment being independent variables and Extended Career Prospects as the dependent variable as per the several factors that have been identified as important to the research objectives through literature review.

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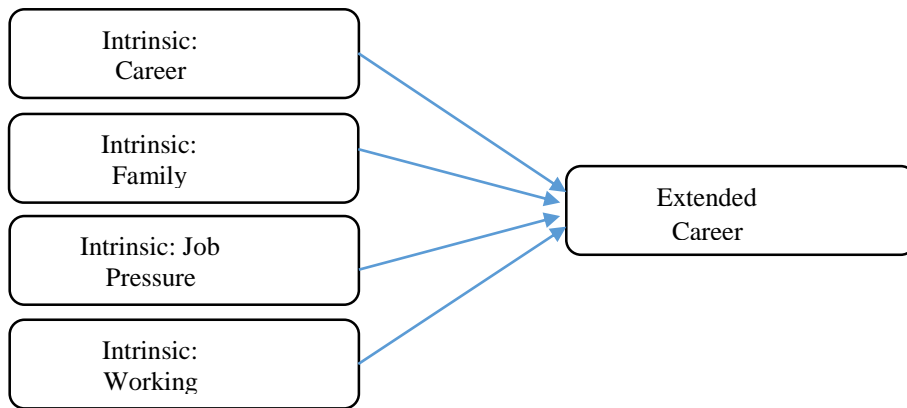
Figure 1 - The relationship between the Factors Affecting for Extended Career Prospect

Source - Developed by the Author (2019)

Sampling Profile

As the sampling method, the stratified disproportionate sampling is used in the study to collect data from 100 female executives in the logistics companies around the Colombo area. However, as most of the Logistics companies are located in Colombo, it can be deducted that the scope of the study covers the overall country.

Data Collection Method

For the Quantitative study, the researcher intends to collect data through an online questionnaire. For this, the researcher intends to develop a structured questionnaire.

Data Analysis

The researcher used the Statistical Package for Social Sciences (SPSS) 25 version as statistical software to explore and analyze the data gathered through questionnaires. The ordinal regression logit model has been applied to the whole research.

Results

Reliability Test

The Cronbach's alpha values range from 0.486 to 0.810. Except for one variable (Int: Family Support: 0.486) the rest of the Cronbach alpha values are above 0.6, which is acceptable as minimum coefficient required was 0.60 as per Nunnally (1967).

Ordinal Regression Logit Model

Pseudo $R^2 = 0.804$. It means that 80.4 percent of the variation of weight is explained by the regression model. Here it can be seen that the significance value (Sig.) is 0.000, which is

below 0.05 (p < 0.05). This indicates that the selected independent variables are the right set of variables to explain the changes of the dependent variable.

Having realized the Reliability statistics (Cronbach Alpha), Goodness of Fitness (Pseudo R2), Model Fit, it is the last effort to identify the coefficient. It is shown in the Table 1 as follows.

Table 1: Parameter Estimates

	Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
[Avg_ECP = 2.7]	3.538	2.436	2.110	1	.146	-1.236	8.313
[Avg_ ECP = 2.8]	5.425	2.279	5.668	1	.017	.959	9.890
[Avg_ ECP = 3.0]	6.002	2.273	6.974	1	.008	1.547	10.457
[Avg_ ECP = 3.2]	6.755	2.279	8.782	1	.003	2.287	11.222
[Avg_ ECP = 3.2]	6.832	2.281	8.973	1	.003	2.362	11.302
[Avg_ ECP = 3.3]	7.239	2.289	9.999	1	.002	2.752	11.726
[Avg_ ECP = 3.5]	7.589	2.299	10.900	1	.001	3.084	12.095
[Avg_ ECP = 3.6]	7.644	2.300	11.042	1	.001	3.135	12.153
[Avg_ ECP = 3.7]	8.210	2.319	12.532	1	.000	3.664	12.755
[Avg_ ECP = 3.8]	8.737	2.338	13.958	1	.000	4.153	13.320
[Avg_ ECP = 4.0]	9.471	2.368	16.001	1	.000	4.830	14.111
[Avg_ ECP = 4.2]	10.489	2.410	18.938	1	.000	5.765	15.212
[Avg_ ECP = 4.3]	11.184	2.442	20.977	1	.000	6.398	15.971
[Avg_ ECP = 4.5]	12.148	2.503	23.562	1	.000	7.243	17.053
Int: Career Motivation	.992	.395	6.305	1	.012	.218	1.766
Int: Family Support	1.620	.488	11.009	1	.001	.663	2.577
Int: Working Env.	-.438	.401	1.197	1	.274	-1.223	.347
Int: Job Pressure	.202	.339	.353	1	.552	-.463	.867
Link function: Logit.							

ECP=Extended Career Prospect

Source – Survey Data (2019)

As per the Table 1, other than the Intrinsic factor of Working Environment (-0.438), all the other variables such as Int: Career Motivation (0.992), Int: Family Support (1.620) and Int: Job Pressure (0.202) shows a positive response toward the Extended Career prospects of Woman Employees in the Logistics field in the country. Out of all variables, Int: Career Motivation (0.012) and Int: Family Support (0.001) is strongly significant under 5 percent significant level.

Conclusion

Today, women have made a remarkable move in workforce participation in Sri Lanka. Yet, they remain unhappily under-represented in traditionally male dominated occupations and fields. It is obvious from many pieces of literature published on women management this problem has been addressed at macro-level and micro-level. The role of external environmental forces like political, economic, social, technological, ecological, legal, and ethical practices comes under the macro-level which is also known as extrinsic factors. While at the micro-level, it is all about internal factors that are termed as intrinsic factors such as family support, career motivation, working environment, and job pressure, etc. The intrinsic factor: Family Support was founded as a significant factor in the study results. It is believed that family should give a supportive hand as a return to the women as they are a financial supporter in most of the families. In a Sri Lankan culture where there is a big attachment within the families, may appreciate the massive support extended by spouse, children, and parents. Women supposed to work twice as hard as a male. They are obligatory to their family by being caring, sharing and nurturing women. Their unconditional love, caring and participation is vital in running a better family. Thus, sometimes a female impedes their careers when they start over families. With huge family support, women could find it easy to take decisions concerning their extended career opportunities. Secondly, the intrinsic factor: Career Motivation has an apparent impact on women's upward mobility. Everybody needs a career motivation no matter what their gender. Yet, the motivational factors that seek by men and women seem to be varied. Most of the time men are motivated by materialistic things. Granting more facilities, flexible hours, working from home, feeling of a woman's voice is heard, women empowerment and setting the career path, etc. motivates women. Further, positive oral feedback is clearly an essential factor for the employees' motivation. However, regarding enabling factors contributing to their success, Cimirotić *et al* (2017) reported that women's interpersonal, or social skills had a positive effect on their ability to reach their current positions. Though the barrier is prevailing that hinders women's upward mobility, this can surmount by showing how ambitious, committed and how hard-working being a female. These hindrances can overcome by self-effort and the support extended by the family, the organization, and society.

Key words: *Women, Management, Family Support, Career motivation, Sri Lankan Culture, Working Environment*

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An Analysis on Present Scenario of Small Scale Tea Production in Sri Lanka: With Special Reference to Matara District

T. P. D. Chamika[1]

Introduction

Tea is a major cash crop that is grown in Sri Lanka. It taken significant place in the plantation economy. Sri Lanka's tea production occupies a prominent place in the local economy and in the world market. Moreover, the tea-production sector offers employment opportunities for households, particularly in rural and mountainous regions. Sri Lanka has become the fourth largest producer and third largest tea exporter in the world by 2016 (Sri Lanka Tea Boards 2016). Tea has been biggest provider of exporting earning, employment and government revenue. The total contribution of the agriculture sector to Sri Lanka's GDP is about 6.9 percent, with tea contributing 0.7 percent. As a large and small scale production are in the country. Tea lands lesser than ten acres as per the tea control act are considered as tea smallholdings. The smallholders are the largest contributors to Sri Lanka's tea production. Given the importance of tea plantation, the recent trend is to increase the contribution of smallholder tea estate successes year on year, exceeding the importance of large tea estates. The Tea Small Holding Division had made the highest contribution to the overall tea output of Sri Lanka.

Research Objective(s)

The Tea Small Holding Division had made the highest contribution to the overall tea output of Sri Lanka. After the year 2000, some fluctuations in the production of tea small holdings in the country can be identified. Therefore, this research was carried out to identify the present scenario of tea production of tea small holding sector in context to national scenario. As well as to find the reasons that affecting to fluctuations in small scale tea production.

Research Methodology

Present study based on both primary and secondary data. This research was carried out in kotapola divisional secretary area in Matara district. The primary data of 50 sample tea smallholders selected using simple random sampling method and both quantitative and qualitative data were collected through questionnaire. Secondary data were collected through annual reports of central bank, Sri Lanka Tea Board and Tea smallholdings development authority. Data was analyzed using the descriptive statistics method.

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Results and discussion

According to primary data, the findings showed that 98% the respondents who was mainly Income source of cultivating tea in the study area. 48% tea smallholders have had tea land less than acre of the area. As well as 88% farmers cultivated tea variety of TRI2026. But new variety of tea had not grown in study area. The farmers were able to produce between 100kg and 1000kg per month. High number of farmers in Matara district had basic formal knowledge and knowledge of tea cultivation. 52% tea smallholders applied fertilizer variety of U709. Majority of farmers were used labour own his family. The study results indicated that fertilizer and labour inputs are important resources in increased tea production.

Secondary data were used to examine the present scenario of small scale tea plantation sector in Sri Lanka. Total tea lands in Sri Lanka amounted to 221,968 hectares including 132,329 hectares of tea small holdings as per the census of tea small holdings in year 2005. Accordingly, 59% of the total tea lands in Sri Lanka belong to tea smallholdings sector. Number of tea small holders was 393,420 by year 2015.

Figure 01: National production contribution percentage-1990-2016
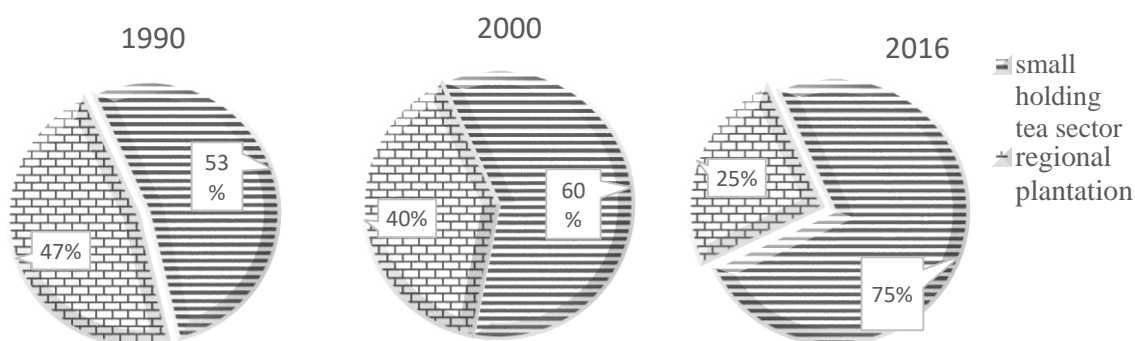
Source: Tea Small Holdings Development Authority 2016

Figure 01 illustrated that the Contribution of the tea small holdings to the national economy in year 1991 was 50.3% and it developed gradually until it reached up to 74.5% in year 2016.

National tea production in year 2016 is 292.57 million kilo grams. Compared to the previous year this is a deduction of 36.39 million kilo grams or 11% from the national production. Moreover, the total tea production of tea smallholdings sector has been declined by 21.8% million kilograms that is 9% of the production.

Figure 02: Tea Production of Tea Small Holding Sector from 1985-2016
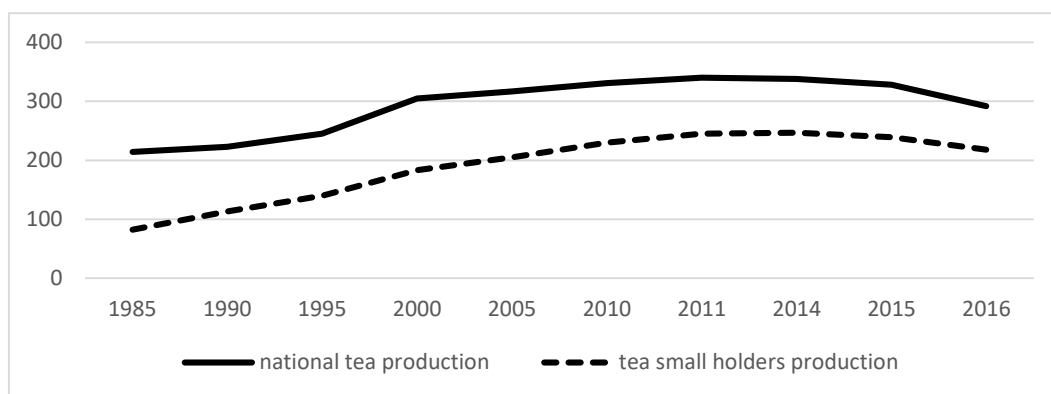
Source: Sri Lanka Tea Board

According to figure 02, there was some fluctuation of annual tea small holdings production. Year 2009 was the year which reported the lowest production of tea and it was Million 291 kg and the production of the tea small holders faced a considerable drop in year 2016 and therefore the production was reduced to 292.57 Million Kgs. However, it marked an increase in the production by 16.1 Million Kgs Compared to year 2009. But, due to the unfavorable weather conditions in year 2016 the national tea production dropped by 11.4% and the Tea Small Holding Sector faced a drop of 9%. Increase in the production and productivity in the tea smallholdings sector mainly caused the increase in the national tea production both in years 2015 and 2016 too. Tea smallholdings sector contribution for national tea production in year 2016 consisted of 96% of total low country tea production, 61% of median country tea production, and 19% of the total up country tea production. In addition, 81% of the total private sector tea production even in year 2016 belonged to low country tea production.

Compared with year 2015, in 2016, up country tea production in the tea smallholdings sector has been decline by 10.7% while median country tea production has been escalated by 8.8% and low country tea production has been declined by 9%.

Major reason for this decline was the extreme weather conditions prevailed with showers during the end of the year 2016 and as a result, the unfavorable situation for leaves production. Especially the escalation of prices for row leaves, increase of incentive amount for tea plantation, dividing large extent of lands and directing lands without optional crops to cultivation of tea have resulted in the increased of number of lands in the tea small holdings sector.

Conclusion

The Tea Small Holding Division has made the highest contribution to the overall tea output of Sri Lanka. The tea production in year 2016faced a special backdrop due to unfavorable weather conditions. However, the contribution to the national production has been improved

in the tea small sector. Variety of tea, soil condition and rainfall came as individual variables which effect tea production in smallholders. Introduce new varieties, provide standard Aid Price for green leafs, Dispose of public policies, and provide insurance cover for farmers, Implementation of fertilizer loan scheme, distributing fertilizer, provision of support services such as providing planting material, utensils and transport facilities for increasing tea production.

Keywords: *Tea, smallholders, present scenario, national production*

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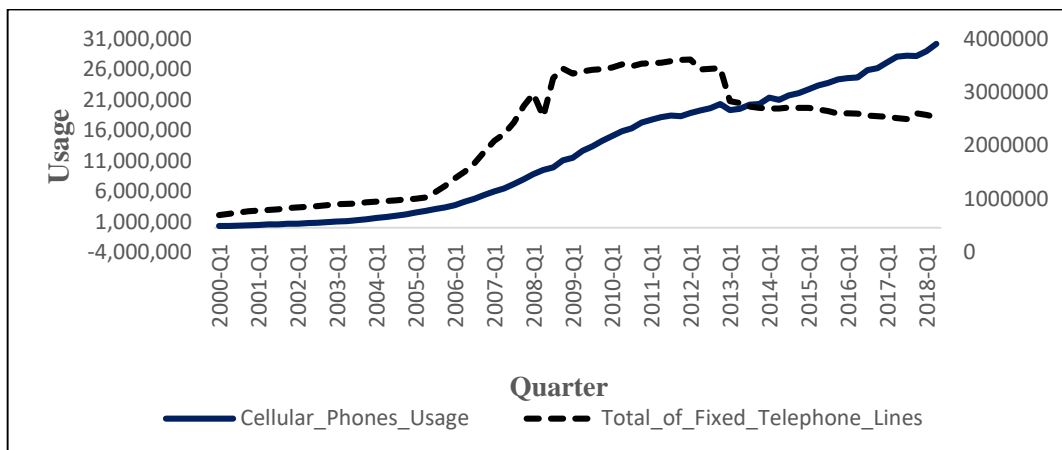
Modeling and Forecasting the Usage of Cellular and Landline Phones in Sri Lanka

A.W.S.P. Karunarathne[1], M.S.H. Perera[2], U.P. Liyanage[3]

Introduction

Cellular and landline phones are at the forefront of telecommunication. There are two major categories of phones namely cellular phones and landline phones. Landline phones can be classified into another two sub categories as fixed wire landline phone and fixed wireless landline phones. In this study, the total usage of those two categories have considered as the landline phone usage. Since, the mobile segment has instantly developed in Sri Lanka, there can be seen a significant decline in landline phones market.

Figure 1: Time Series Plot of Cellular and Fixed Telephone Lines Usage in Sri Lanka

Source: Central Bank, Sri Lanka (2018)

In this paper a thorough statistical analysis has been undertaken to forecast the usage of both cellular and fixed landlines in Sri Lanka. Here, time series analysis (Hillmer & Wei, 1991) and forecasting (Robert & David, 1964) were aid in modeling the usage. (Yuan et al., 2004) have conducted a survey to analyze the households on cell phones using several survey techniques. It was hard to find proper literatures on forecasting the usage of phones using time series which have done for Sri Lanka. Nevertheless, (Kaur & Abodallahian, 2014) has carried out a study to examine the future Global Mobile market using Holt's Exponential Smoothing method to forecast the monthly mobile data.

Our study will be helpful to the people those who are with the telecoms market to achieve their business goals.

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Research Objective

The objective of this paper is to find a suitable model to forecast the usage of cellular and landline phones in Sri Lanka.

Methodology

The data needed for this study were collected from the Central Bank of Sri Lanka. The data set contains quarterly data from year 2000 quarter 1 to 2018 quarter 2. Kwiatkowski-Phillips-Schmidt-Shin (KPSS), Augmented Dickey Fuller (ADF) and Phillips Perron (PP) tests were used to check the stationary of the time series. In this study a univariate time series approach has been used in forecasting.

A Non-Seasonal ARIMA model can be obtained by combining the differencing with Autoregressive and a Moving Average model.

$$ARIMA(p, d, q) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. \text{ (1)}$$

where, p: autoregression order

d: degree of differencing

q: moving average order

$$\hat{y}_t = c + \emptyset_1 \hat{y}_{t-1} + \emptyset_2 \hat{y}_{t-2} + \cdots + \emptyset_p \hat{y}_{t-p} + z_t + \theta_1 \hat{z}_{t-1} + \theta_2 \hat{z}_{t-2} + \cdots + \theta_q \quad \ldots\ldots\ldots. \text{ (2)}$$

where, $\hat{y}_t$ is the differed series.

The autoregressive order can be identified using PACF (Partial Autocorrelation Function) plot and the moving order can be identified using ACF (Autocorrelation Function) plot. ARIMA has four major steps as model building, identification, estimation, diagnostics and forecasting. In this study the Mean Absolute Percentage Error (MAPE) value has been used to assure the forecasting error.

Results and Discussion

Time Series Plots

Figure 2: Time Series plot of quarterly cellular phones usage
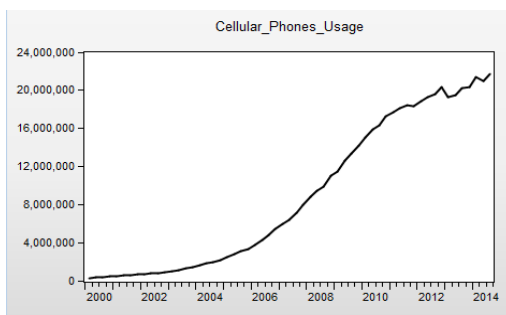
Figure 3: Time Series plot of quarterly fixed telephone lines usage

50

Figure 2 and 3 implies the variation of the quarterly cellular phones' usage and fixed telephone lines usage in Sri Lanka. In Figure 2 there can be observed consequent upward non linear trend. In Figure 3 it can be seen an upward non linear trend upto year 2012 quarter 4 and then from year 2013 quarter 1 the fixed telephone usage starts to decrease gradually. Therefore, both series seems to be non stationary.
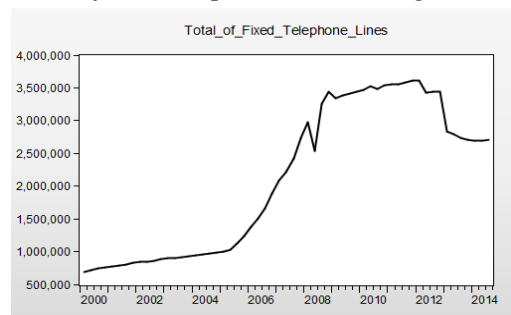
In order to convert the non-stationary series into stationary series, the differencing technique was performed.

In this study, we have to take the second difference to make these series stationary and here we have portrayed both graphical and statistical results.

Checking Stationarity

Figure 4: Time Series plot of quarterly cellular phones usage after differencing 2 times
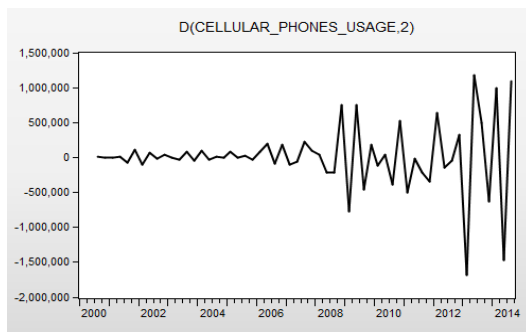
Figure 5: Time Series plot of quarterly fixed telephone lines usage after differencing 2 times
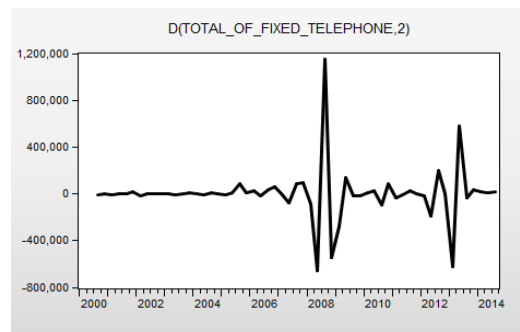
Since there is no trend seems to be in the above Figure 4 and 5 they seem to be stationary.

For KPSS test the hypothesis is given below,

H_0: *the series is stationary*

H_1: *the series is not stationary*

According to the results of Kwiatkowski-Phillips-Schmidt-Shin Test for Cellular phones, Test Statistic = 0.04170 < critical value = 0.463. Do Not Reject the null hypothesis. Therefore, the series is, stationary at 5% level of significance. As per the results of Kwiatkowski-Phillips-Schmidt-Shin Test for fixed telephone lines, Test Statistic = 0.044787 < critical value = 0.463. Do Not Reject the null hypothesis. Therefore, the series is stationary at 5% level of significance.

For ADF and PP tests the hypothesis is given below,

H_0: The series is not stationary

H_1: The series is stationary

According to results of ADF test, the probability value = 0.000 < 0.05. Reject the null hypothesis. Therefore, the series is stationary at 5% level of significance. As per the results of PP test, the probability value = 0.0001 < 0.05. Reject the null hypothesis. Therefore, the series is stationary at 5% level of significance.

Figure 6: Correlogram for cellular phones usage
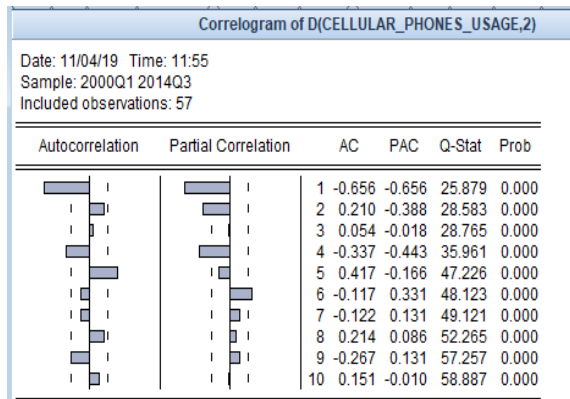
Figure 7: Correlogram for fixed telephone lines usage
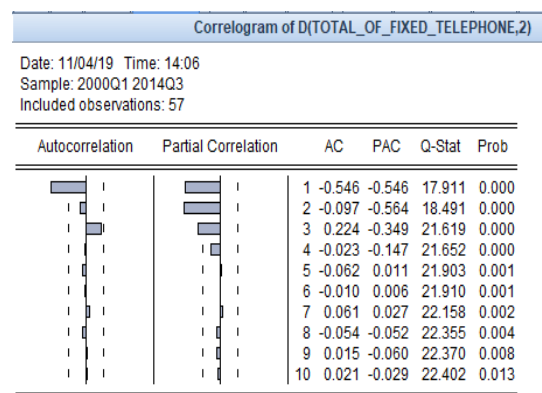
In Figure 6, the significant cutoff lags of ACF and PACF plots are 1,4,5 and 1,2,4,6 respectively. In Figure 7, the significant cutoff lags of ACF and PACF plots are 1 and 1,2,3 respectively.

Model Fitting

After considering all possible models, an ARIMA (1,2,1) model was identified as the best fitted model with minimum AIC is equal to 28.298 for forecasting the cellular phones usage in Sri Lanka and an ARIMA (2,2,1) was identified as the best fitted model for forecasting the fixed telephone lines usage in Sri Lanka with

Figure 8: Output for ARIMA (1,2,1) model

Figure 9: Output for ARIMA (2,2,1) model

minimum AIC is equal to 26.852. The corresponding test results are shown in the below Figure 8 and 9.

Model Adequacy Checking

Heteroscedasticity Test

$H_1: No\ presence\ of\ ARCH\ effect$
$H_1: Presence\ of\ ARCH\ effect$

According to results of Heteroscedasticity Test, the probability value 0.5349 >0.05. Do Not Reject the null hypothesis. Therefore, there is no ARCH effect at 5% level of significance. The probability value 0.1042 >0.05. Do Not Reject the null hypothesis. Therefore, there is no ARCH effect at 5% level of significance.

Serial Correlation Test

$H_1: No\ presence\ Serial\ Correlation$
$H_1: Presence\ of\ Serial\ Correlation$

In both models, the Durbin-Watson Statistic is closed to 2 and it implies there is no serial correlation at 5% level of significance.

Forecasting

To checking the forecasting accuracy of models, the Mean Absolute Percentage Error (MAPE) is 1.403 and 0.976 respectively.

According to forecasting plots, ARIMA (1,2,1) and ARIMA (2,2,1) models have a strong potential for forecasting the usage of cellular and landline phones.

Conclusion

In this study two ARIMA models were fitted to forecast the quarterly cellular phones and landline phone usage in Sri Lanka. Here, ARIMA (1,2,1) and ARIMA (2,2,1) were the best models with minimum AIC 28.298 and 26.852 for cellular phones and landline phone usage respectively. And then 20% of the data were used to forecast and the Mean Absolute Percentage Error (MAPE) of the forecasted models were 1.403 and 0.976. Also, a model adequacy checking was carried out to inspect the validity of these models and it was concluded that the models were adequate. It is clear that the performance of the both ARIMA models selected here are quite impressive and the actual and predicted values seems to be related to each other.

Keywords: *AIC, ARIMA, ACF, MAPE, PACF*

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The Empirical study on Potentials to Developing Rail Tourism in Sri Lanka - Evidence from Colombo – Badulla Railway Route

N. F. B. T Fernando[1], W.A.I Madhusankha[2], E.A.S.I Samarasekara[3]

Introduction

Rail tourism is a niche tourism segment and activities of persons traveling to and staying in places outside their usual environment for engage with Rail Tourism activities include short train rides, railroad park observations, museum visitations, and special events, such as rail fairs, festivals and days. Rail tourism provides potential economic benefits as a means of business and heritage identity (Philip, case study of Rail Tourism, 2012).

Current situation of tourism in Sri Lanka is not much focused on rail tourism sector and there were no statistical data or annual reports with responsible authority to indicate on international tourists who are travel using train. But according to the Ministry of Transport "Sri Lankan tourism industry is booming and can achieve higher revenue through the promotion of railroad tourism, if developed and market appropriately" (Sri Lanka by rail Article, 2012).

Objectives

The objectives of the study were identifying most affecting destination mix factor for developing rail tourism in Sri Lanka and identify the effect of Coach's interior attributes to rail tourism in Sri Lanka.

Methodology

According to objectives of the study, population was foreign tourists who travel by train from Colombo to Badulla railway route. Sample size was 80 and sample selected from Podi Manike 20, Udarata Manike 20, Rajadhani Express 20 and Expo Rail 20. Judgment Sampling Technique employed to select respondents who were actively engaged with rail tourism. Primary data was collected by distributing semi structured questionnaires. Exploratory factor analysis and descriptive statistics were used to analyze destination mix factors and Coach's interior attributes. Statistical Packages for Social Science (SPSS) software was used for analyze data.

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Figure 1: Conceptual Frame work

Destination   Mix Factors
- Attractions
- Accessibility
- Amenities
- Available packages
- Activities
- Ancillary services

Coach's   Interior Attributes
- Sanitary
- Safety
- Solace
- Service

Identifying potentials to develop rail tourism in Sri Lanka
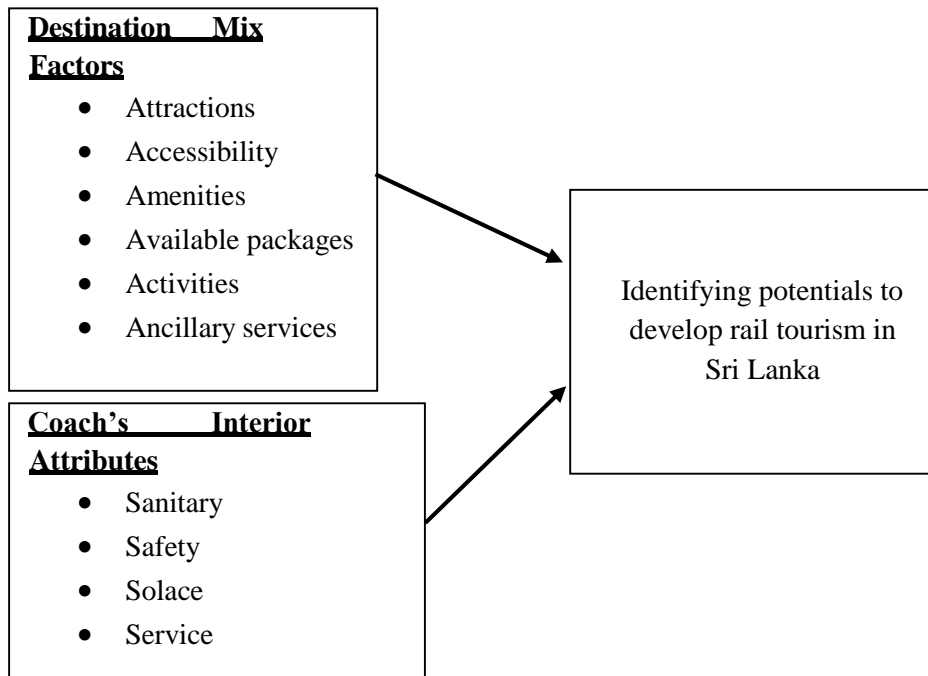
Findings

Destination mix factors

Factorability of variables measure according to Kaiser- Meyer-Olkin (KMO) and Bartlett's Test. KMO Measure of sampling adequacy number should be more than 0.5. This analysis represents 0.528 of KMO value and Bartlett's Test is significant.

Factor analysis was employed to identify the underlying dimensions of the 24 destination mix factors. From 24 destination mix factors, eight core dimensions that influence on rail tour to travel Colombo – Badulla rail way route. Eight dimensions including, Location's attractions and attributes, Accessibility and amenities, Tourism supportive activities, Ticket purchasing & Tour Packages, Passenger information, Observation platform. According to the above analysis "Location attributes and attractions" are the most influencing factor which represents 3.517 Eigen value. Among attractions natural attractions are most influencing factor.

Table 1: Coach's interior attributes

Variable	Mean	Standard Deviation
Sanitary		
Train interior cleanliness	3.50	0.941
Clean lavatory and water system	2.79	1.052
Availability of tidy seats	3.46	0.927
Safety		
Availability of savior	3.71	0.679
Security for baggage	3.41	0.910
Solace		
Availability of proper ventilation system/air condition facilities	3.45	0.926
Availability of comfortable seating facilities	3.65	0.731
Service		
Availability of quality catering service/cafeteria	2.65	1.017
Hospitable staff	3.56	0.939

Source: Field survey (2018)

According to the overall coach's interior service quality factors passengers were averagely almost agree with the service quality that was provided by railway service providers. Averagely the train interior cleanliness, tidy seats, availability of guard, security for baggage, proper ventilation system, comfortable seating facilities, and availability of hospitable staff were almost agreed due to the mean value represents the rule $3.5 < X \leq 5$. The mean values were 3.5, 3.46, 3.71, 3.41, 3.45, 3.65 and 3.56 respectively. But clean lavatory & water system and availability of quality catering service/cafeteria are not in satisfactory level. Mean value of these two factors are 2.79, 2.65. According to the Standard deviation for interior cleanliness is denoted by 0.940. It indicates that it deviated from mean by 0.941. Clean lavatory and water system is deviated from mean by 1.052 and also tidy seats, availability of guard, Security for baggage, proper ventilation system, comfortable seating facilities, quality catering services and availability of hospitable staff deviated by 0.927, 0.679, 0.910, 0.926, 0.731, 1.017 and 0.939 respectively.

Conclusion

There is a potential to develop rail tourism in Sri Lanka but it should practice in advance to attract more inbound tourists. Based on the finding it can suggested that upgraded compartments for the foreign tourists with required facilities such as promotional materials, increase the comfort levels, air conditioning the compartments; Implement a system to work

with tour operators, travel agents, hotels by Sri Lanka Railway; Maintain a system to operate the respective long way trains according to the fixed time schedule.

Key Words: *Rail Tourism, Sri Lanka, Destination Mix Factors, Coach's Interior Attributes*

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Stakeholders Perception on Bentota Tourism Industry

K.A.D.I. Wickramaratne[1]

Introduction

Bentota is a famous tourist destination in Sri Lanka due to its ancient history, natural and cultural elements. Bentota is a beautiful village, located in the Galle district of the Southern province about 64km from South of Colombo. This area consists of natural attractions like very rare flora and fauna, a beautiful beach, famous Bentota river, cultural and archaeological attractions. The integrated facility in Bentota is an excellent model of sustainable tourism and a classic example of well planned development. Due to the unique features of the Bentota most of the stakeholders motivate to make tourism investments in this area. It is very important to state as to how tourism should be developed in a country, tourists to have a peaceful holiday, private sector to offer tourism facilities and local community to share tourism benefits. The post war scenario of Sri Lanka stimulates many aspects of the economy in particular. Among them Tourism and Hospitality industry is prominent. At the same time the perception of stakeholders is emphasized in the macro perspective as a strategy in strengthening the economy.

Research Objectives

Therefore, the focus of this paper is to investigate tourism in the view of the aspects of stakeholders'. Having identified opportunity recognition as the heart of being the expectations of stakeholders, this paper stresses the need of practice of tourism in the view of stakeholders and thus presence and identifying opportunities are important. Though it is the requirement, issues exist in relation to this.

Methodology

To achieve this motive, the researcher explored five stakeholders of the government & five tourism investors who give their contribution to the Bentota tourism industry. The survey was conducted as an exploratory study highlighting the practice of tourism related the stakeholders' perception.

Results and Analysis

The results were presented fewer than two main sub headings for easy understanding as Government stakeholders' in-depth interview results analysis and Tourism investors' in-depth interview result analysis

Government stakeholders in-depth interview results analysis

"The Coastal Conservation Department (CCD) is one of the main stakeholders to the Bentota tourism development projects, we understand this area will enhance the national tourism industry, tourism investments and more tourists' receipts to Sri Lanka. According to Sri Lanka Tourism Convention Bureau (SLTCB), "tourism in Sri Lanka needs such an active development for the industry very soon. Bentota has its own unique tourist attractions. Due to this reason this project can easily develop tourism and bring tourists to Sri Lanka. The Urban Development Authority (UDA) concluded that this project is a good one for the country, but there are no sufficient infrastructures that have been developed or well-planned up to now. Sri Lanka Promotion Bureau (SLTPB) is looking to this project in following ways, "Sri Lanka is an island, so far has only been promoted general tourism market segments and its attractions. By developing Bentota as a new interface, it will give an opportunity to Sri Lanka for new tourism markets competitive with other top tourism destinations. Sri Lanka Tourism Development Authority (SLTDA) mentioned that from one angle, this project has becoming a timely introduction to the tourism industry. As per of the tourism market situation, the country's safety and the relevancy of tourist developments are more favorable. The locations and resources are all attractions for tourism industry requiring a good planning and implementation approach.

Tourism investors' in-depth interview result analysis

The investor - 1 mentioned that they have understood that the tourism industry of Bentota will enhance the national tourism industry, tourism investments and more tourists' receipts to Sri Lanka. The general opinion of the investor- 11 mentioned that the tourism in Bentota needed such a mega development for the industry very soon. This area has a great potential to develop the tourism with its own and unique attractions. According to the views of prominent investor- 111 pointed out "invest in Bentota tourism sector as a timely introduction to the industry, as per of the tourism market situation, country's safety and future demand pattern in the industry. According to investor- IV mentioned that the tourism investments in Bentota as a good contribution for the national tourism sector. But there are insufficient infrastructure developments for the investments up to now. According to the investor- V stated when looking to these tourism investments in this area is an important opportunity after the end of the civil war in the country. In addition, it is a good venture for investors and the local products and the services as well as to develop more employment opportunities return. It is important to develop more infrastructure to viable the investment opportunities more and more from local and foreign sectors".

Conclusion

The results of the study revealed some important implications which need to be addressed in the policy level. Some stakeholders who engage in tourism industry are geared to do a mere profit generating activity with the motive of earning to their households. The

researcher's investigations revealed that their education in relation to the sustainable tourism is lack. Finally, the research identified the stakeholders' opinions on sustainable tourism development in Bentota.

Key words: *Bentota, stakeholders, tourism, tourism Industry*

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Impact of External Factors on Service Quality of Travel Agency (With special reference to Green Holiday Centre (Pvt) Ltd)

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Introduction

Green Holiday Centre is a medium scale travel agency operating its services on the inbound tour operations in Sri Lanka. They mainly consist with four markets such as Indian, Eastern Europe, China and other markets. Out of the markets recently the china market has a drop in the company, according to the SLTDA statistics during these period china arrivals has been rapidly increasing. Though the company Chinese market has been declined still the factors from the side of the organization kept constant. Hence researcher assumes that this decline would be due to the external factors. Therefore, this research mainly focuses on identifying the guest satisfactory level of the external factors and to find the relationship between external factors and the service quality of the travel Agency.

Research Objective(s)

Objectives address in this study,

- A.   To identify the guest satisfactory level of the external factors
- B.   To find the relationship between external factors & the service quality of the travel agency

Methodology

The population is the total number of Chinese tourists who has completed their tours with the Green Holiday Centre. Researcher used the simple random sampling technique in order to select the sample out of the total population. The sample will be 30 units of tour groups who had planned and completed their tours via Green Holiday Centre. Moreover, the researcher has used a feedback form consisting with 04 likert scale questions to rate the services which was already collected by the company. Since the research will be based on the secondary data. In order to achieve the objectives of this research, the researcher conducted descriptive analysis and correlation analysis for the study.

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Results and discussion

Reliability Analysis

Table 1: Result of Reliability Analysis

Dimension	Cronbach's Alpha
Cleanliness of the Hotel	0.783
Service of the Hotel	0.753
Foods of the Hotel	0.750
Quality of Guide	0.791
Quality of Transportation	0.842
Quality of Driver	0.708
Service on Arrival	0.776
Service of Tour Executive	0.738

Source: SPSS output from Field Survey (2019)

According to the results of reliability test all Cronbach's Alpha values are above 0.7 for all the dimensions in the research. Therefore, the reliability of the questions is high.

Table 2: Guest Satisfactory Level of the External Factors

Dimension	Mean Value	Median
Cleanliness of the Hotel	2.87	3.00
Service of the Hotel	3.07	3.00
Foods of the Hotel	1.93	2.00
Quality of the Guide	2.40	2.00
Quality of Transportation	3.87	4.00
Quality of the Driver	3.70	4.00

Source: SPSS output from Field Survey (2019)

According to the mean values of the external factors that affecting on the service quality of the travel agency, Chinese tourists are highly satisfied with the quality of the transportation and quality of the driver. In addition, cleanliness of the hotel and service of the hotel the guests are averagely satisfied. Foods of the hotels are the least rated variable in this study which shows that the Chinese tourists are dissatisfied with the foods of the hotels that

offered by the travel agency. In addition, the guests are rated that quality of the guide are also as poor.

Relationship between the External Factors and the Service Quality of the Travel Agency

Table 3: Results of Correlation analysis of the external factors with service quality of the travel agency

Correlations			
External Factors	Pearson Correlation	Sig. (2-tailed)	N
Cleanliness of the Hotel	0.585**	.000	30
Service of the Hotel	0.682**	.000	30
Foods of the Hotel	0.281**	.000	30
Quality of the Guide	0.526**	.000	30
Quality of Transportation	0.851**	.000	30
Quality of the Driver	0.768**	.000	30

Source: SPSS output from Field Survey (2019)

According to the Pearson correlation values both quality of the Vehicle and the Quality of the driver is having a strong positive relationship to the quality of the travel agent service. Out of those two factors most influential factor to the travel agent service is the quality of the vehicle. Because that holds the highest Pearson correlation value. When considering about the least influential factor there is only on factor that having a weak positive relationship and that is the food of the hotel. This variable is holding the least Pearson correlation value. Therefore, food of the hotel is the least influential factor to the travel agents' service quality. All the other factors are having an average positive relationship.

Conclusion

The researcher suggest the travel agency needs to be more focused when selecting the hotels, since most of the guests are dissatisfied with the hotel foods, Therefore the travel agencies can use specialized Chinese restaurants for their guests rather than providing them the foods from the hotels. Moreover, the travel agency needs to change or train their guides in order to increase the quality of guiding. As quality of transportation has the highest relationship the travel agency needs to consider the quality of the vehicles by implementing a continuous vehicle inspection process.

Key Words: *External Factors, Service Quality, Travel Agency, Chinese Market*

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A Study of the Factors Affecting on Customer Satisfaction in Tourism Industry in Sri Lanka

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Background of the Study

Consumer loyalty is a business logic, which watches out for the making of significant worth for clients, envisioning and dealing with their desires, and exhibiting capacity and duty to fulfill their needs. The nature of administration and consumer loyalty are basic components for the accomplishment of any business (Parasuraman *et al*., 1988, Gronoos, 1990). Be that as it may, achieving consumer loyalty is known to be the most critical and the most contemporary test looked by the administration business (Marković and Janković, 2013). Llach e*t al* (2016) has expressed that the cordiality business faces a great deal difficulty. These difficulties incorporate monetary issues, increment in rivalry and client requests. Kandampully and Suhartanto (2000) contends that the developing volume and rivalry has opened entry ways for clients with more options, more prominent incentive for cash and increased dimensions of administration. Picking up an upper hand is the way to confront this test. Subsequently, accomplishing consumer loyalty is key for the accomplishment of the neighborliness business because of its administration direction. According to the pilot study done in February in the year 2019, taking 20 tourists, identified that tourists are in opinions that they visit Sri Lanka not for the first time but for the second or third time. This indicates they prefer to be here in Sri Lanka rather than other destinations. Some tourists convey; "Ever since October 2015 we have been coming here," said Jameel and Tanya from Palestine and Ukraine respectively. "We don't care about bombs or other issues. We love Sri Lanka and will continue to come here." This shows that repeat purchase intention is always there. Then the questions come, because of what reasons they visit Sri Lanka more than one time. However, many arguments come into effect to decide what factors come as variables influencing consumer loyalty in the friendliness business of Sri Lanka and its effect to keep up Sri Lanka's upper hand as a much looked for after vacationer goal.

Research Questions

Based on the problem statement developed as above, the following research questions are to be addressed;

A. What are the key factors that affect consumer satisfaction in tourism in Sri Lanka?
B. What is the impact of the key factors affecting on customer satisfaction to consumer loyalty in tourism in Sri Lanka.?

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Research Objectives

According to the research questions, the following objectives are organized

A. To identify the key factors affecting on consumer satisfaction in tourism in Sri Lanka.
B. To assess the impact of the key factors affecting on customer satisfaction to consumer loyalty in tourism in Sri Lanka.

Research Methods

Based on their hypothetical behavioral pattern, the proposed conceptual framework is depicted in Figure 1 below.

Figure 1: The Factors Affecting on Consumer Loyalty
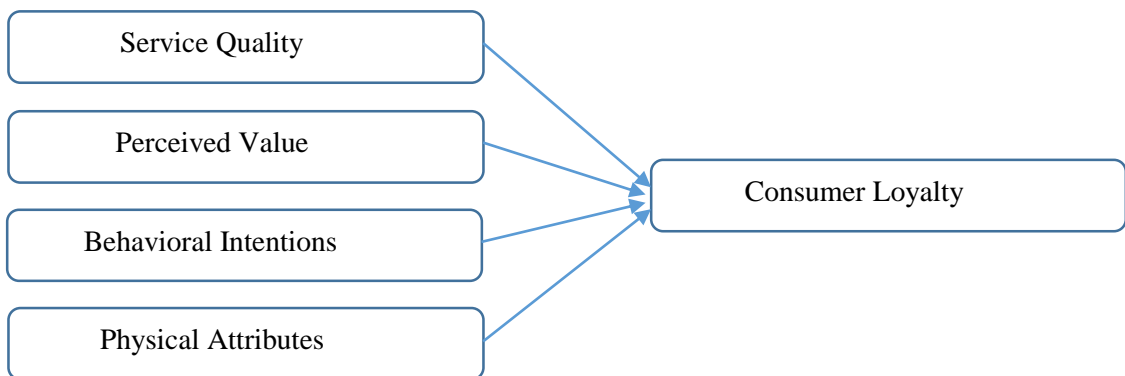
Source: Developed by the Author (2019)

Formulation of Empirical Model

The formulation of the empirical model of the research was developed based on the conceptual framework of the study as shown below.

$$Y_{ij} = f(\beta X1_{ij}, \beta X2_{ij}, \beta X3_{ij}, \beta X4_{ij}) \, Err$$

Where;

Y = Vectors of Consumer Loyalty

$X1$ = Vectors of Service Quality

$X2$ = Vectors of Perceived Value

$X3$ = Vectors of Behavioral Intentions

$X4$ = Vectors of Physical Attributes

i = of a customer

j = in the Tourism Industry in Sri Lanka

Err = Error term

Sample Profile

A Sample of 371 tourists are planned to select under convenient sampling method. As per Saunder *et al* (2009) even for the Quantitative studies, the convenient sampling method can be used.

Data Collection Method

As the study is a quantitative method with an extension of qualitative components, semi-structured questionnaire is planned to be used as it brings more convenient platform for the quantitative and qualitative analysis. Further Interview method is also used for the Qualitative component.

Data Analysis Method

For quantitative component, Unit-variate, Bi-variate and multivariate analysis too were conducted for the collected data set. Finally, correlation and coefficient analysis was done using 95% confidence level. Statistical model of the quantitative analysis is SEM (Structural Equation Method) and it was estimated by using SPSS AMOS (21) Qualitative data is analyzed by using a case study approach.

Results and Discussion

Sample Adequacy

The Sample Adequacy was tested using KMO Test. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy ratio was 0.798 at 0.000 significant level and thus the sample is well adequate.

Reliability Test

Upon finding the sample is well adequate, the sample was then checked for its reliability. The Sample reliability was tested using Cronbach's alpha and the value obtained was 0.832 for the four variables.

Goodness of Fitness

According to the analysis, GFI, AGFI and PGFI were devised by Jöreskog and Sörbom (1984) for statistical estimation, and generalized to other estimation criteria by Tanaka and Huba (1985). GFI, AGFI and PGFI are less than or equal to 1.

Bi-Variate Analysis

Table 1: Bi-Variate Correlations Analysis

		Service. Quality	Perceived. Value	Behavioral. Intension	Physical. Attributes	Customer Loyalty
Service. Quality	Correlation Coefficient	1.000				
	Sig. (2-tailed)	.				
	N	371				
Perceive d. Value	Correlation Coefficient	.806**	1.000			
	Sig. (2-tailed)	.000	.			
	N	371	371			
Behavior al. Intension	Correlation Coefficient	.994**	.810**	1.000		
	Sig. (2-tailed)	.000	.000	.		
	N	371	371	371		
Physical. Attribute s	Correlation Coefficient	.938**	.740**	.938**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.	
	N	371	371	371	371	
Custome r Loyalty	Correlation Coefficient	.996**	.804**	.993**	.942**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.
	N	371	371	371	371	371

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

Source: Survey Data (2019)

According to the Table 1 Service Quality and Consumer Loyalty has a positive relationship (.996) with higher significance (p.000) on the assumption of that the other factors remain constant while Perceived value and Consumer Loyalty is positively correlated (.804) with significance (p.000) assuming the other factors constant. Further, assuming the other factors constant, Physical Attributes and Consumer Loyalty is correlated (.993) significance (p.000). Finally, as per the Table 1, consumer loyalty is related (.942) by Physical Attributes most significantly (p.000)

Coefficient Analysis

According to the Table 2, Impact of Service Quality, Behavioral Intention, Physical Attributes and Perceived value on Customer Loyalty are having a positive relationship with a higher significance Value.

Table 2: Parameter Estimates

			Estimate	S.E.	C.R.	Estimate	P
Customer Loyalty	<---	Service Quality	.354	.053	6.684	.424	***
Customer Loyalty	<---	Behavioral Intension	.442	.085	5.196	.342	***
Customer Loyalty	<---	Physical Attributes	.170	.016	10.565	.214	***
Customer Loyalty	<---	Perceived Value	.018	.008	2.268	.028	.023

Source: Survey Data (2019)

Conclusion

The relationship between quality and customer loyalty is obvious: loyalty is impossible with low quality. The importance of loyalty is also obvious: the mature industry requires long-term relations with customers. The current study showed the interrelationships among service quality dimensions and customer loyalty in the Tourism Industry sector in Sri Lanka. This study confirms the positive relationship between all the service quality attributes and customer loyalty. Moreover, because all the dimensions of service quality attributes are positively correlated with customer loyalty, hotel managers should emphasize all the service quality dimensions in maintaining and improving the service quality that they provide. This study highlights that reliability and empathy are the most important dimensions of service quality in the Tourism Industry in Sri Lanka. The hotel managers need to put a lot of emphasis on the attributes of reliability and empathy to create service quality which will eventually result in loyalty. The importance of customer loyalty for tourism is also proved with some practical cases. The study discusses the effectiveness of multi-sponsor loyalty platforms and the high volume of tourism service offers (flights, journeys, hotel accommodation, etc.) Individual preference can be considered as the element of quality service and the instrument of getting customer loyalty. Price discounts can motivate short-term sales, but they are questionable in the long-term perspective. Retailers in the service industry "employ price discounts on products to motivate short-term sales, they often establish promotional policies without considering their effect on the long-term business results". The price discounts can decrease the revenues, but according to the results of the study, they don't have much influence on customer loyalty.

Key Words: *Behavioral Intentions, Consumer Loyalty, Perceived Value, Physical Attributes, Service Quality,*

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A Study of Using New Media for the Management of Institutional Public Relations Internally and Externally (With Special Reference to Telecom Company)

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Introduction

The main link in the business sector is the customer. If there are no customers, that could jeopardize the well-being of a business. To prevent this from collapsing, more effective public relations methods must be adopted. Most of the businesses in the world use these public relations methods to promote their institutions. This is mainly a form of advertising. This enables the customer to get access to information without paying (Frolova, 2014). New media systems with low-cost are used in many organizations around the world. It was observed that public relations have now become an essential part of business communication (Diedrick, 2017). The new media, which are widely used in corporate and internal, were identified. For example, Website, Social media - (Facebook, Twitter, Linkedin), e-mail, Computer, Land Phone/ Mobile Phone), etc.

There is an active relationship between the customer and the organization of a business. The internal process of a business involves a variety of customers. It uses the Internet and global communication strategies to build a huge business presence. It seeks to build a revolution through the new media tools of the modernizing society. The use of new media has enabled businesses to create a dialogue with customers. It enables users to share products and services with clients. There is a greater emphasis on new media related public relations methods, rather than on doing so effectively.

The new media features have positive features that can be used as a public relations method. New media has the ability to transfer information efficiently than traditional media. Communication tools, such as television, radio, and newspaper, enable faster communication with new media features. These are some of the positives that can be achieved through the use of media.

A. Easy to submit the information that is very accurate and accurate at a very low cost.

B. Immediacy.

C. Ease of managing the information on the site itself.

D. Easy access to international access.

E. Time-consuming and easy to access at any time.

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In this respect, the new media is a positive element in maintaining public relations.

Research Objective(s)

The main objective of this study is to investigate the use of new media for the management of corporate internal and external public relations. In addition, the role of the new media in the management of internal and external public relations is to determine whether the intended use of the new media has been affected to reach the desired target and to study the communication strategies used by the new media. The research problem of the study was to determine how new media is used for corporate internal and external public relations management.

Methodology

Use of sources for data collection and information is very important in research. Information can be obtained from both primary and secondary sources. Theoretical and concept based on secondary sources for data collection. Information sources related to the issue of study, such as Books, magazine, Article, Internet sources, Web sites, Research reports, Dictionary, Encyclopedia and Census reports were used. The sample of the study was selected from the Telecom Institute of the Kurunegala Divisional Secretariat in the North Western Province. A sample of 60 external customers and 40 internal employees were selected for the study. The research focused on the use of new media for the management of corporate internal and external public relations, with a focus on their different age, Educational levels, and gender categories.

Results and discussion

Forty employees and sixty customers in the rural, urban, semi-urban, residential area were used for this research. The random sample was used in the analysis of the use of telecoms by gender. Women represent 53 percent of the random sample, while the other 47 percent represents male. This figure represents the number of employees using the telecom network. It is clear that the majority of people who use this network are the state. It is 34% as a percentage & the private sector is about 20%. That is, there were ten percent of the self-employed

The majority of people who chose the telecom network were informed about the telecom network through leaflets and others said they were good. It is 23.7% According to this sample, fifteen percent chose the telecom network because there are many benefits 29% were motivated by advertisement. That The overall result was 4.6 percent. The use of technology within the organization has greatly influenced the service delivery process of the company. It represents 45.3percent of the total frequency. The efficiency of the corporate workforce was five, which is 7.8% of the total sample. When asked about the new media use response to the PR process, 29% of those who died were quoted as saying they were

very successful.52 percent said it was somewhat successful. Twenty people have also stated that the use of the   new media is not sufficient for the public relations work within the SLT.Twenty-five percent of respondents said they were aware of the use of new media to manage public relations. Twenty-one people are represented there. A number responded that they were moderate.

Conclusion

The study summarized that the use of new media elements for the business sector can maintain a positive public relation. It is an ideal medium for popularity in business. New media can be used to make organizing something easier and content can be used to keep the customer's attention.

Social Utilization The power relationship can be identified by the new media as not only the most appropriate medium for the dissemination of knowledge and information. New media is a formal communication strategy that can be adapted to the time. It can also be concluded that the current institutional and internal public relations are maintained in a more orderly manner.

In this research, it was revealed that the new media methods could be used in institutional structures as a method of public relations. But as a developing country, it is important to understand that in Sri Lanka there are problems that cannot be achieved. The reasons for this must be investigated on the part of the customer as well as the employee.

A. Lack of English language skills
B. Lack of technical knowledge
C. Visiting technical equipment and Lack of computer literacy

For these reasons, a general knowledge of modern technology can be identified as a compulsory factor. This is because this knowledge is necessary to move in proportion with the developed countries. Even today love is intertwined with new media. A mobile phone that connects to a Facebook page using a modern device can end a marriage. This means that new media is an indispensable tool in the future.

Key words: *Customer, New media, Public Relations, Businesses, Customer*

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Factors associated with destination image on tourists' revisit: With reference to Polonnaruwa, Sri Lanka

A. L. B. Fernando[1], P. G. T. N. Perera[2], L.N. Liyanage[3]

Introduction

As tourism is one of the prominent sectors in the Sri Lankan economy, number of research studies have been done in order to find the impact of tourism income on the economic development. For the purpose of gaining higher income through tourism, it is essential to have a continuous tourist arrival. To achieve that, revisit intention of tourists is a significant factor. The major identified factors affecting tourist revisit intention include satisfaction (Choo & Petrick, 2014; Ranjbarian & Pool, 2015; Um et al., 2006) perceived value (Petrick et al., 2001; Campo-Martinez et al., 2010), past vacation experience (Chen & Gursoy, 2001; Kozak, 2001), sense of security (Chen & Gursoy, 2001), image (Allameh et al., 2014; Pratminingsih et al., 2014; Hallmann et al., 2015; Tan & Wu, 2016), attachment (Petrick, 2004), and cultural difference (Chen & Gursoy, 2001). Out of these, destination image consists of the overall beliefs, ideas and impressions consumers have about a place or destination. Studies analyzing destination image and revisit intention have shown a positive effect between destination image and revisiting behaviour of tourists (Rittichainuwat et al., 2001; Tasci & Gartner, 2007). Destination image consists of cognitive and affective images (Beerli & Martin, 2004). Cognitive images are visible elements (eg landscape, cleanliness), or psychological elements (impression about atmosphere and hospitality). Affective images comprise of the feelings or emotions a tourist generates about a given destination (Martin & Bosque, 2008). Therefore, this study aims to examine the factors associated with destination image on the revisit intention of tourists.

Methodology

The tourists, who visited Polonnaruwa ancient town was the target population of this study. As it was hard to find the sampling frame and difficult to select whether this is first visit or revisit, this study used the convenience sampling technique. In order to survey a maximum number of various tourists over a relatively small period of time, total of 125 questionnaires

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were distributed to participants. The study has developed a 5 - itemed Lickert scale to measure the level of satisfaction needed for the re-visitation by tourists who visited Polonnaruwa. Factor analysis was used to identify the associated factors.

Results and Discussion

A principal component analysis (PCA) was conducted on the 15 items with orthogonal rotation (varimax). The Kaiser–Meyer–Olkin measure confirmed the sampling adequacy for the analysis, KMO = .781 ('good' according to Field, 2009), and all KMO values for individual items were > .5, which is well above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity χ^2 (105) = 1121.624, p < .001, indicated that correlations between items were sufficiently large for PCA.

Table 1: Rotated Component Matrix

	Component				
	1	2	3	4	5
Sufficient Natural parks	-.155	.202	-.046	.065	.680
Sufficient beauty areas	.052	.026	-.529	.645	.054
Sufficient natural water areas	.025	-.150	-.063	.091	.726
Accommodation	.083	.041	.675	.103	.044
Information Network	-.078	.030	.658	-.019	-.143
Cleanliness Conditions	.069	.022	.522	-.025	-.032
Attractive Refreshment Packages	-.051	.976	-.042	.082	-.288
Sports areas	.017	-.060	.313	.466	-.284
Entertaining areas	-.021	-.091	.165	.797	.137
Accommodation prices are reasonable	-.064	.970	.052	-.034	.034
Affordable city	.995	-.052	.006	.005	-.036
Get value for money I pay in this area	-.064	.970	.052	-.034	.034
Lively city	.995	-.052	.006	.005	-.036
Exciting city	.048	-.483	.159	.146	.206
Pleasant city	.995	-.052	.006	.005	-.036

Extraction   Method: Principal   Component   Analysis.

 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Table 1 shows the factor loadings after rotation. The items that cluster on the same components suggest that component 1 represents an favourable city, component 2 a perceived value, component 3 accommodation quality, component 4 entertainment, and component 5 natural beauty.

Conclusion

Five features: favourable city, perceived value, accommodation quality, entertainment, and natural beauty in destination place have a significant impact on tourists' revisit intention. Destination image has become one of the key feature on the tourists' revisit intention. The conclusion of this study can related tourism enterprises and departments to increase their customers.

Key words: *Destination image, re-visit, tourism*

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Intra-Regional Tourism as a Soft Power tool of Small States: Comparative Study of Sri Lanka and Cambodia

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Introduction

It is beyond doubt that power is recognized as one of the central yet problematic concepts in international relations. As identified by Joseph Nye, power is like weather. Everyone depends on it and talks about it, but few understands it (2004, p.04). Power can be simply defined as the ability to achieve one's purposes and goals. In his epic work, "Politics among Nations" Hans J Morgenthau proclaims that international politics like all politics is a struggle for power. Whatever the ultimate aim of international politics, power is always the immediate aim (Morgenthau, 1948, p.13). Nye (2004) distinguishes between two forms of power, namely soft power and hard power. According to him, hard power refers to the ability to use the carrots and sticks of economic and military might to make others follow your will (ibid). On the other hand, soft power is defined as the ability to get what you want through attraction rather than coercion or payment, which includes culture, values and foreign policies. Soft power rests on the ability to set the political agenda in a way that shapes the preferences of others (ibid). According to Chang (2007), soft power is emerging and getting more influential in today's global information space and it has less hard support. As far as small states are concerned, while there is so much literature available on small states, there is no consensus when it comes to defining small states. According to Chang (2007), small states suffer from a definitional problem in both theory and political practice. However, for the purpose of the study, a small state is defined as a state which can never act alone and make a significant impact on the international system, using its quantitative or tangible elements of power. This inability to influence and attract the international community through tangible elements of power has made small states rely more on soft power as a source of influencing the international community and attaining national interests.

As one of the world's largest economic sectors, travel and tourism creates jobs, drives exports, and generates prosperity across the world (WTTC, 2018). As far as Cambodia and Sri Lanka are concerned, both countries rely heavily on tourism industry. Looking at the numbers, over the years the number of tourists visiting both the countries have increased significantly. Against this backdrop, the main objective of this study is to examine the relevance of intra-regional tourism for small states like Cambodia and Sri Lanka. It compares the where these two countries stand in the context of promoting and attracting tourists from their own regions.

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Methodology

This study is a comparative case study of the tourism industry of Cambodia and Sri Lanka. This is predominantly a qualitative research based on both primary and secondary data. Quantitative aspects too have been used to attain the research objectives. This research can also be identified as a desk study and the main sources of data collection include, books, journal articles, annual reports, websites, etc.

Discussion

As noted in earlier, tourism has always been an integral part of the economies of both Sri Lanka and Cambodia. Over the years, the number of international tourists visiting both countries have increased significantly.

Figure 01: International Tourist Arrivals to Cambodia and Sri Lanka by Country of Residence 2015-2018
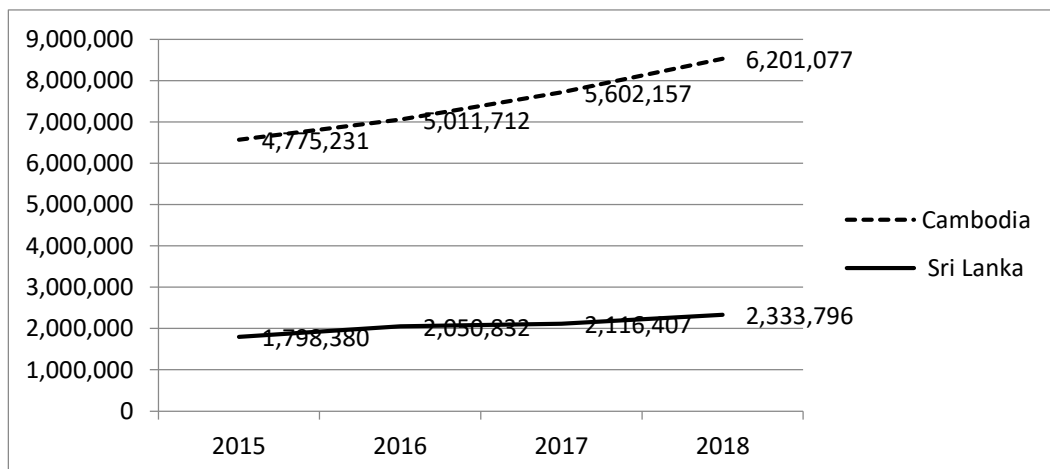
Source: Ministry of Tourism, Cambodia and Tourism Development Authority, Sri Lanka

Here what is important to understand is the greater level of significance given by both Sri Lanka and Cambodia in promoting its tourism industry within their own regions (Table 01 and Table 02).

Table 01: International Tourist Arrivals to Cambodia by region 2018

Region	Tourist arrivals	Share %
Asia and the Pacific	**4,995,633**	**80.6**
ASEAN (Southeast Asia)	**2,067,504**	**33.3**
Northeast Asia	2,684,908	43.3
Southern Asia	81,620	1.3
Oceania	152,212	2.5
Europe	**818,661**	**13.2**
Northern Europe	219,964	3.5
Western Europe	349,469	5.6
Central / Eastern Europe	125,989	2.0
Southern Europe	95,518	1.5
Americas	**369,319**	**6.0**
North America	321,069	5.2
Central America	1,945	0.0
South America	43,799	0.7
Africa	**12,435**	**0.2**
North Africa	1,394	0.0
Subsaharan Africa	10,529	0.2
Middle East	**5,029**	**0.1**

Source: Tourism Statistics Report, Ministry of Tourism, Cambodia

Table 02: International Tourist Arrivals to Sri Lanka by region 2018

Region	Tourist Arrivals	Share %
North America	131,117	5.62
Caribbean, Central & South America	8,309	0.36
Western Europe	392,697	16.83
Northern Europe	339,049	14.53
Central & Eastern Europe	169,046	7.24
Southern Europe	101,939	4.37
Middle East	72,786	3.12
Africa	16,006	0.69
North East Asia	343,870	14.73
South Asia	**549,108**	**23.53**
South East Asia	87,054	3.73
Oceania	122,815	5.26
Total	2,333,796	100.00

Source: Annual Statistical Report 2018-Sri Lanka Tourism Development Authority

As given in Table 02, out of the total number of international tourists visited Cambodia in 2018, 33.3% has been from the region of Southeast Asia while with regard to Sri Lanka,

23.53% of the total tourist arrivals to the country are from the countries in South Asia. Here, promoting its tourism industry among the immediate neighbor-hood remains highly significant for a number of reasons.

Firstly, intra-regional tourism brings stability to the tourism industry. Second aspect is that intra-regional tourism adds diversity to the tourism of a country. In the case of Cambodia and Sri Lanka, while both countries are reaching out to Europe and America, tourists from their own regions have able to bring both stability and diversity to their tourism industries.

For small states, their ability to influence the international system remains very low. However, through greater level of regional cooperation, countries like Sri Lanka and Cambodia can have a say in their regions. Therefore, these small states can use tourism industry to enhance their relationships within the regions.

Conclusion

Considering the facts and figures, it should be noted that for small states in particular, intra-regional tourism remains highly significant. Given by the definition of small states, their ability to influence the international system through the tangible elements of power remains almost impossible. In this regard, tourism plays a significant role in terms of attracting and influencing the region as well as the international community. Therefore, it remains vital for small states to have significant leverage in the immediate neighbor-hood, and tourism industry plays a significant role in this regard.

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Socio – Demographic Profile of Criminals Who Committed Homicides: in Relation to Mahara Prison

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Introduction

Homicide which is belongs to a grave crime category can be identified as a common crime to any society. Homicide is the killing of one human being by another (Adler, Muller and Laufer, 1991). Homicide can be explained simply as 'the unlawful killing of a human being with malice aforethought' (Kornblum and Julian, 1974). Assassinate a person with purposively is a homicide (The encyclopedia Americana, 1959). According to the police records, In Sri Lanka, homicides have been recorded from different areas of the country. In 2017, homicide rate for Sri Lanka was 2.3 cases per 100,000 populations. It is fluctuated the number of recorded homicides cases with the time. Homicide is caused by mix of factors and socio - demographic structure can be a risk factor for homicide. According to these facts it is essential to identify the socio – demographic profile of homicide criminals.

Research problem of the study

What are the socio – demographic characteristics of criminals who committed homicides? Related to the above research problem, recognition of the socio – demographic profile of homicide criminals was the main aim of the study.

Methodology

Survey and case study were used as research methods. Mahara prison was selected for the study. The study was based on quantitative and qualitative data. It has employed both primary and secondary sources. Primary data were collected through structured questionnaire, structural and non- structural interviews and case studies. Secondary data were collected via books, magazine, newspapers and websites. Purposive sampling method was used to select the sample of 40 detainees who were convicted by the courts for homicide. Data was analysed by using statistical package for social sciences (SPSS).

Results and Discussion

This study found the living area, age structure, marital status, educational level and the family background of the criminals as follows.

The analysis found that the majority 35 (88%) of the criminals were from rural areas. 5 (12%) of the criminals were from urban areas.

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Table 01: Living Area of criminals

Living Area	Frequency	Percentage (%)
Rural	35	88
Urban	5	12
Total	40	100

Source: Field data

An analysis of the socio – demographic background data showed that the criminals range in age from 20 to 70. Among the 40 criminals, the majority 14 (35%) were aged range in 31-40 and twelve (30%) of the criminals were aged range of 20-30. Eleven (28%) were in the aged range of 41-50. Two (5%) were in the age range of 51- 60, while 2 (5%) were in the aged range of 51-60.

Table 02: Age Distribution of Criminals

Age Structure	Frequency	Percentage (%)
20-30	12	30
31-40	14	35
41-50	11	28
51-60	2	5
61-70	1	2
Total	40	100

Source: Field data

Among the 40 criminals, 31 (78%) of the criminals were married. Seven (17%) were unmarried and two (5%) had been divorced.

Table 03: Marital Status of Criminals

Marital Status	Frequency	Percentage (%)
Married	31	78
Unmarried	7	17
separated	2	5
Total	40	100

Source: Field data

The majority of the criminals 20 (50%) had achieved a secondary level education. 13 (33%) of the criminals had a primary level education. Similarly, 5 (12%) of the total criminals had studied up to O/L. Among the criminals 2 (5%) hadn't gone to school.

Table 04: Educational Level of Criminals

Educational Level	Frequency	Percentage (%)
Not schooling	2	5
Year 1 - 5	13	33
Year 6 - 10	20	50
Passed O/L	5	12
Total	40	100

Source: Field data

Of the respondents 32 (80%) criminals had earned more than Rs. 5000 per month. Majority of the sample 18 (45%) was earning a monthly income of Rs.16, 000 – 25,000. Of the sample 7 (18%) criminals had earned between Rs. 5,000 – 15,000 per month. 4 (10%) had earned between Rs.26, 000 – 35,000. 2 (5%) had earned between Rs.36, 000 – 45,000 per month. Of the criminals, one (2%) criminal had earned more than Rs. 56,000 per month Rest of the respondents 8 (20%) had earned less than Rs.5, 000. Family background of the criminals can be shown as Table 05.

Table 05: Family Background Details of Criminals

Family Members	Frequency	Percentage (%)
Parents, Relatives and Children	2	5
Father, Step mother and Children	1	2
Mother, Step farther and Children	1	3
Mother and Children	1	3
Father and Children	1	2
Husband, Wife and Children	28	70
Husband and Wife	6	15
Total	40	100

Source: Field data

Conclusions

According to the research findings on socio – demographic characteristics of criminals who committed homicides, it could be concluded that of the criminals who took part in the study, the majority were from rural areas. Majority of the criminals were married and had achieved a secondary level education.

Keywords: *criminals, homicide, Mahara prison, socio – demographic characteristics,*

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Study of Customer Based Brand Equity in promoting Sri Lanka as a Wedding Tourism Destination - With Special Reference in Southern Region

Chaamila Rathnayake[1]

Introduction

Wedding tourism is a recently emerging tourism market which is still in its development phase when compared with sun-sea-sand and culture or nature tourism segments. After realizing the real potential benefits of this niche market, most of destinations commenced promoting wedding based tourism. Destination marketers used to market and branding destinations as perfect places for destination weddings and honeymoons.

As described by Ching, wedding destinations can be defined as the places where newly married couples make visits to feel each other without any disturbance from other common family bonds. It makes them feel very closer to their hearts and gives them lifelong pleasures. Ching further pointed out that the tropical beach is the ideal location sold by the industry for the wedding away because of its own discourse and ideology as an iconic tourist destination.

And also, Ching emphasized that the increasing popularity of the destination wedding demonstrates an attempt by couples to negotiate and even change the meaning and purpose of the wedding ritual; and, as a result, the wedding itself is taking on new meaning. In this context, wedding destinations add new meaning to the newly wedded couples beyond conventional framework. According to Abad & Hossein (n.d.) that many researchers have shown interest in brand equity concept and tried to use different approaches to measure it in various industries.

This is because of the necessity in today's marketplace to develop, maintain and use product branding to acquire a certain level of competitive advantage. Strong brand offers advantages such as competitiveness position in the markets, more brand loyalty and better reaction toward increase in price by customers. A brand could be defined as a "name, sign, symbol or design, or combination of these, intended to determine the goods of an organization and distinguish them from those of competitors" (AMA, 2013).

Hotel guests rely on brand names to reduce the risk associated with staying at an otherwise unknown property (O'Neill & Xiao, 2006). Thus, a brand is something for consumers to feel good about (Vaid, 2003), and successful brand organizations promote themselves as such. This has been further clarified by Clifton, Simonn & Ahmad (2003) and according to them brands offer potential guests the perception of reliable quality service and memorable experience.

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A brand is seen as a guarantee of consistent quality and can be used to attract and better satisfy clients and enhance brand loyalty and equity. When selecting the hotels, a strong and unique brand reduces the perceived risks and search cost. This is also a fragment of brand equity and thus, enhancing the brand equity is becoming prominent trends (Chieng & Goi, 2011; Wood, 2000). According to existing literature, it is clear that brand equity concept is playing major role in hotel industry.

As described by Ngarachu (2015) that wedding tourism is a developing service product in the tourism industry and it is creating an extremely competitive market segment as destinations and their service providers hope to gain a share of this niche segment. To be competitive, destinations need to be innovative in responding to the growing demands of tourists. The wedding tourism product is one such demand. Wedding tourism, that is, travelling internationally for the purpose of getting married or celebrating a wedding (Acorn Consulting Partnership Ltd., 2008) has become increasingly popular in recent years (Major, McLeay & Waine, 2010, p. 249).

Dimensions of customer-based brand equity for a tourist destination were identified by Konecnik& Gartner (2007) and Pike (2007). Initially this CBBE concept introduced by Aaker (1991) and Keller (1993), and they conceptualized the Brand equity in different ways. Furthermore, Konecnik (2005) and later Konecnik & Gartner (2007) has been developed and extended this concept as Customer based Brand Equity for Tourists Destinations (CBBETD). However, to integrate, the CBBE model has to be more complete, the major problem is that the CBBE model has still not been investigated and applied in any studies of the wedding tourism segment.

Thus, the main advantage of this academic study is to apply the conceptual model of CBBE to the wedding tourism industry & offer very voluble insight of relationship among CBBE dimensions. Therefore, this research study is focused to identify whether customer based brand equity (CBBE) model would help to measure customer satisfaction levels of Southern region as a wedding destination and to find out major influencing factors that lead to retention and attraction of wedding customers to Southern Region of Sri Lanka.

Objective of the Study

The main research objective of this study is to examine what factors determine and enhance the present promotional strategies for a wedding tourism destination with special reference to the Customer Based Brand Equity in the context of Southern Region in Sri Lanka.Even thought, wedding tourism is a growth market, an empirical studies shows that there is a huge research gap in Sri Lankan context to examine the effectiveness of wedding tourism. Therefore, this research also examines whether customer based brand equity is an effective method in promoting wedding tourism in Sri Lanka.

Methodology

The main aim of this study is to investigate wedding and honeymoon tourism influence on the branding of Southern region of Sri Lanka. In order to answer research questions, quantitative research approach was chosen. Questionnaire is distributed among 100 randomly selected past wedding couples and 80 couples were responded. Primary data is collected from distribution of a survey questionnaire among sample

In the present study, it was obviously impossible to ascertain the exact number of people in the world who satisfied the basic criteria (Wedding and Honeymoon Couples). A finite number could not therefore be achieved in the sampling frame. It was therefore decided that the most appropriate sampling method for the present study was judgmental sampling (Purposive) method.

Results and Discussion

This studies examined Customer Based Brand Equity within a Wedding tourist destination context. In this final chapter will discuss about the implications and findings to both academics and practitioners.

The sample of past wedding couples studied in this research has indicated that the majority of them were familiar about the Southern Regions a wedding destination. Both male and female customers were responded to the survey.

Table 01: The relationship between brand equity and brand dimensions

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.368	.301		-1.222	.226
	Avg_BA	.270	.088	.233	3.075	.003
	Avg_BQ	.223	.069	.219	3.242	.002
	Avg_BL	.213	.071	.210	2.986	.004
	Avg_BI	.375	.062	.439	6.049	.000

a. Dependent Variable: Avg_BE

The result of this regression analysis is indicate that; There is a significant correlation of brand awareness p = 0.003 (p<0.050), brand quality p = 0.002 (p<0.050), brand loyalty p = 0.004 (p<0.050) and brand image p = 0.000 (p<0.050) collected with customer brand based equity for promoting wedding tourism destination. Null hypothesis is rejected and alternative hypothesis is accepted.

Therefore, there is a relationship between wedding destination brand image, brand awareness, brand quality and brand loyalty on customer based equity for promoting wedding tourism in Southern Region of Sri Lanka.

Conclusion

In conclusion, this study examined brand equity dimensions within a Wedding Tourism Destination context. Different dimensions of customer-based brand equity influences wedding destination promotions and its effect is extended to products associated with a wedding destination. Specifically, brand image, brand awareness, brand quality and brand loyalty of destination were positively related with promoting for wedding tourism.

This study only looked at the associations between the degrees of influence that the dimensions of brand equity of influencing factors had on wedding destination promoting. But other possible promotional tools, promotional strategies and also segmentation and positioning strategies were not analyzed due to time restraints and the narrow focus of the study. Future researchers can use these other models and strategies as a basis for their studies as well.

Key Words: *Brand equity, Customer based brand equity (CBBE), Destination branding, Destination marketing, Niche market, Wedding tourism*

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Identification formats and levels in Machine Readable Cataloging Standards for Library Automation of University Libraries in Sri Lanka.

Dhammika Rathnayaka[1], W. M. T. A. P. Wasala[2]

Introduction

Operating all library functions by using computers without manual activities is Library Automation. Library automation has been developed for library in-house operations including acquisition, cataloguing, circulation, serial controls, user controls, budgeting and reporting such as selective dissemination of information. Library Management Systems (LMS) are being used to automate most of the university libraries in Sri Lanka. In 1960, Computers had been used for cataloguing purposes (Ghaebi et al., 2010). The functions included in LMS are mainly based on the Cataloguing standard. For example, KOHA was created depending on MARC standards. Machine Readable Catalogue (MARC) is not only a cataloguing function but, a method of cataloguing based on computer or machine and it is a scientific format for creating and identifying bibliographical information in LMS. During 1965 to 1966, MARC I was published under the project named "Pilot Project" eventually MARC II in 1967(Ghaebi et al., 2010, Henriette, 1968). MARC 21 was published after IFLA - UNESCO conference in 1972. UNIMARC, CANMARC, UKMARC, INDOMARC are some of the MARC standards which were introduced later (Ghaebi et al., 2010).

Fifteen government Universities under University Grants Commission have been used both Open Source Library Management Systems (OSLMS) and Commercial Library Management Systems (CLMS) for library automation. KOHA OSLMS was used twelve out of fifteen university libraries, other universities used CLMS for the library activities in January 2019.

Problem of the Research and the Objective

Using MARC 21 bibliographic fields in LMSs of selected university libraries was different from each other and that was identified as a problem. Usage of MARC 21 field is differently from each other; it will be a problem to build a union catalogue or centralized catalogue among the university library management systems in the future. That will create different sets of bibliographic descriptions in OPACs. Problems of duplicating and authentication on LMSs may arise in the future. Identification formats and levels in Machine Readable Cataloging Standards for Library Automation of University Libraries in Sri Lanka was the objective of the research.

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Methodology

Quantitative and quantitative research methods were used in this research. Five university libraries out of 15 automated libraries were purposively selected as the sample of University of Colombo, University of Sri Jayewardenepura, University of Kelaniya, University of Moratuwa and University of Visual and Performing Arts. The reasons responsible for the purposive sampling method were long distance, the limited time frame and insufficient budget allocated for the research.

One structured questionnaire was distributed among selected library staff members. The questionnaire was given to 60 library staff members. (five librarians, fifteen senior assistant librarians, ten assistant librarians, five senior assistant librarians/assistant librarians who were engaged in the cataloguing activities and twenty-five library assistants in selected libraries) to identify formats and levels in Machine Readable Cataloging Standards for Library Automation of University Libraries in Sri Lanka.

Discussion and Findings

Four out of selected five university libraries have used MARC 21 fields in their automated library management systems which are LIBSYS and KOHA. Other library was used Alice for Windows to automate the library. MARC 21 standard had not been used normally in Alice for Windows. What MARC 21 fields they used in their LMS which was quested from five senior assistant librarians/assistant librarians who were engaged in the cataloguing activities through the questionnaire 1. Their responses to questions are given in the Table 01 below.

Table 1: identified MARC 21 fields in automated library management systems

MARC FIELD	FIELD DEFINITION	KOHA			LIBSYS
		U1	U2	U3	U4
000	LEADER	■	■	■	■
003	CONTROL NUMBER IDENTIFIER	■			
008	FIXED-LENGTH DATA ELEMENTS-- GENERAL INFORMATION	■	■	■	■
020	INTERNATIONAL STANDARD BOOK NUMBER			■	
041	LANGUAGE CODE	■	■	■	■
080	UNIVERSAL DECIMAL CLASSIFICATION NUMBER		■		
082	DEWEY DECIMAL CLASSIFICATION NUMBER	■		■	■
100	MAIN ENTRY--PERSONAL NAME	■	■	■	■

242	TRANSLATION OF TITLE BY CATALOGING AGENCY	▓		▓	
245	TITLE STATEMENT	▓	▓	▓	▓
250	EDITION STATEMENT	▓	▓		▓
260	PUBLICATION, DISTRIBUTION, ETC. (IMPRINT)	▓	▓	▓	▓
300	PHYSICAL DESCRIPTION	▓	▓	▓	▓
500	GENERAL NOTE	▓	▓		▓
650	SUBJECT ADDED ENTRY--TOPICAL TERM	▓		▓	
942	ADDED ENTRY ELEMENTS (KOHA)	▓	▓	▓	
952$O	KOHA FULL CALL NUMBER	▓	▓	▓	
952$P	BARCODE	▓	▓	▓	▓

Source: Field research data– 2019

According to Table 1, eight MARC fields have been commonly used in their automated library management. Those MARC 21 fields were,

> Leader (000),
> Fixed-Length Data Elements--General Information (008),
> Language Code (041),
> Main Entry--Personal Name (100),
> Title Statement (245),
> Physical Description (300),
> Publication, Distribution, (Imprint) (260)
> Barcode (952$P).

Above MARC 21 fields could have been identified when searching on their OPACs. Not having a common set of MARC 21 fields in their OPACs was identified. More problems have been identified by them willing to face in future due to not having a common set of MARC 21 fields in their LMS.

They pointed as a major problem which was the creation of a union catalogue or a centralized catalogue among the university libraries. Difficulty of implementation of the corporate cataloging, difficulty of interchanging bibliographical data among the university libraries, duplicating bibliographical data and authority controlling in a union catalogue will be difficult tasks, etc. they identified these as problems that they have to face in the future due to not having a common set of MARC 21 fields in their LMS.

As the solutions to overcome the above issues, training and awareness programs should be conducted for the library staff to make them aware on the cataloguing practices. It will encourage them to work with MARC standards and will create an interest among them to engage in cataloguing practices further. A uniform MARC standard for Sri Lanka should be implemented with a proper guide line among university libraries. Majority of the library staff endorsed that a proper MARC standard system should be introduced for the university

libraries. Some discussions are going on at present to implement a uniform MARC standard by National Library and Documentation Service Board, Sri Lanka. The University Library Association can become the pioneer in promoting the MARC standard among universities in near future.

Keywords: *Standards, Library Standards, Library Cataloguing Standards, Machine Readable Cataloguing, Library Automation, Cataloguing*

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