

15TH INTERNATIONAL RESEARCH CONFERENCE

*Economic Revival, National Security, and Sustainability through
Advancement of Science, Technology, and Innovation*

29TH - 30TH SEPTEMBER 2022

MANAGEMENT, SOCIAL SCIENCES AND
HUMANITIES

PROCEEDINGS



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PROCEEDINGS



General Sir John Kotelawala Defence University

Ratmalana, Sri Lanka

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This book contains the Conference Proceedings of the Management, Social Sciences and Humanities Session of the 15th International Research Conference of General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka held on the 29th and 30th of September 2022. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, without prior permission of General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka.

Published by

General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

Tel: +94-771002822

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Website: <https://www.kdu.ac.lk/irc2022>

ISBN 978-624-5574-69-8

Other Proceedings of the Conference:

Defence and Strategic Studies: ISBN 978-624-5574-65-0

Medicine: ISBN 978-624-5574-66-7

Engineering: ISBN 978-624-5574-67-4

Law: ISBN 978-624-5574-68-1

Management, Social Sciences and Humanities: ISBN 978-624-5574-69-8

Allied Health Sciences: ISBN 978-624-5574-71-1

Computing: ISBN 978-624-5574-70-4

Built Environment and Spatial Sciences: 978-624-5574-72-8

Technology: ISBN 978-624-5574-74-2

Criminal Justice: ISBN 978-624-5574-75-9

Basic and Applied Sciences: ISBN 978-624-5574-73-5

Published on

29th September 2022

e-Book Version

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Welcome Address

Major General Milinda Peiris RWP RSP VSV USP ndc psc

Vice Chancellor, General Sir John Kotelawala Defence University

Chief Guest, Secretary - Ministry of Defence, General Kamal Gunaratne (Retd), Keynote Speaker, Hon. Prof. Subramanian Swamy, Your Excellencies in the Diplomatic Corps, Chief of Defence Staff, Gen Shavendra Silva, Commander of the Army, Lt Gen Vikum Liyanage, Commander of the Navy, Vice Admiral Nishantha Ulugetenne, Eminent plenary speakers representing our friendly nations, Vice Chancellors of Other Universities, Former Commandants of KDA, Former Chancellors and Vice Chancellors of KDU, Rectors of KDU Campuses and Deputy Vice Chancellors, Deans of Faculties and Centre Directors, Senior Military Officers and Police officers, Academics, Administrative Staff, Students, All distinguished guests including those who connected with us in the cyberspace, Ladies and gentlemen, Good Morning to you all!

I am deeply honoured to make the welcome address at this inauguration of the 15th International Research Conference (IRC) of General Sir John Kotelawala Defence University.

To begin with, I warmly welcome our chief guest this morning, Gen Kamal Gunaratne (Retd), Secretary to the Ministry of Defence for gracing this important occasion. We owe you a great deal of respect for the whole-hearted support extended for the progression of this university at all times. Also, may I have the distinct honour of

welcoming our keynote speaker, the esteemed and renowned personality, Hon Prof Subramanian Swamy from neighbouring India.

Hon Sir, we are extremely grateful to you for accepting our invitation and honouring us with your gracious presence to deliver the keynote address of this two-day international research conference. I am sure that your eminent presence adds great value to the event, and we are looking forward to listening to your words of wisdom, which will surely set the most appropriate tone for this scholarly event.

I also welcome the Chief of Defence Staff, Gen Shavendra Silva, Commander of the Army, Commander of the Navy and all other members of our Board of Management. Let me also warmly welcome the members of the Diplomatic Corps representing our friendly nations, Vice Chancellors and Senior Academics from other universities, Former Commandants of KDA, Former Chancellors & Vice Chancellors of KDU, Other officials of Ministry of Defence, Academics, Senior Military Officers, Plenary speakers, Scholars presenting papers in this two-day conference, and all other distinguished invitees and students joining this event physically as well as on cyberspace. As the Vice Chancellor of KDU, I admire your valuable presence at this occasion.

Reflecting on KDU IRCs held last year and the year before, we held them under the most trying circumstances of the grave pandemic. They really tested our resilience and defiance against challenges to the very core. Along with the IRCs, we determinedly continued with all academic and other activities of the university with much vigor, and the results are evident in our achievements.

Ladies and gentlemen, today, we are glad that KDU has firmly established its foot print as a unique higher educational model in the world, which even its critics would not be able to disagree with. The best evidence is its steady growth in its popularity as an Higher Education Institute in Asia, as well as the quality of its output, which are evident in the Times Higher Education Impact Ranking, 2022 table, where KDU is ranked 2nd in Sri Lanka for Quality of Education and 4th in the overall ranking in the country and in the 801-1000 range globally. A more recent indicator of our growth is evident in the world ranking of Law Schools, where the KDU faculty of law took a leap in the world ranking from the 498th place in 2021 to the 83rd place in 2022, from the 189th place to the 25th place in Asia, and from the 5th place to the 2nd place in Sri Lanka.

Ladies and gentlemen, today, we hold the 15th consecutive IRC at a time when we, Sri Lankans are in a grave need to pull up our socks as a nation to face the seemingly unsurmountable economic crisis we are in. And we as a university are determined to give our utmost best for the nation at this crucial juncture. We believe that the role of the universities and the intellectual community of the nation is of paramount

importance for the resurrection of our economy, and that of the nation's defence university is even more significant as it deals with the national security perspective which is inseparably linked with the economic crisis and with a possible recovery from the same.

Serious research in defence and security studies needs to go hand in hand with rigorous research in all other fields. This, we believe, is an essential prerequisite for a quick and sustainable recovery from the crisis. So, we carefully selected the overarching theme, *"Economic Revival, National Security, and Sustainability through Advancement of Science, Technology, and Innovation"* for this year's conference, and its scope encompasses a wide range of significant research possibilities to engage in.

Our aim in selecting this theme entails a holistic vision of the complexities of economic and national security perspectives which demand comprehensive inter- and multidisciplinary approaches to resolve contemporary issues. The expectation is to carry forward the research outcomes to the attention of those in authority to consider implementation to resolve related issues. I do not intend to talk any further on this aspect as I am sure our keynote speaker would elaborate on the conference theme and its significance. Ladies and gentlemen, having commenced in the year 2008 in a humble way, the KDU IRC gained gradual momentum as a trustworthy forum for the country's scholarly community to showcase their multi-disciplinary research outcomes. And what is noteworthy is the ever growing increase in the number of research papers

submitted for the conference, and more so is the increasingly higher quality of the papers presented at the conference.

Therefore, KDU enjoys the humble pride of its leading role in strengthening the research culture in the country that is more and more inclined towards product based or problem solving outcomes in relevant fields, which I believe is the need of the hour. Also the involvement of internationally collaborative research is on the increase. Anyone who visits the KDU IRC Proceedings would note the evolutionary path of the progression in research in the country spearheaded by KDU – You could see the increasingly high numbers of researchers representing almost all the universities, other Higher Education Institutes and research institutes of the country as well as those from renowned universities, Higher Education Institutes and research institutes in the world. So, we are proud of our role in establishing local and international research and scholarly networks that would further enhance creation of new knowledge in diverse disciplines and dissemination of the same.

Ladies and gentlemen, the organizers of this year's research conference too have been doing their utmost best to maintain and upgrade the quality of the annual research conference despite challenges, especially in the face of financial constraints which compelled them to significantly cut down on peripheral expenses.

The circumstances have compelled them to rely on our own resources as much as possible, which I believe is a blessing in disguise in the crisis situation to convert challenges into opportunities. I appreciate

their effort and the support extended from all quarters to make the KDU International Research Conference a resounding success in terms of achieving its objectives. So, let me conclude by once again welcoming our chief guest, the erudite keynote speaker, and all the other distinguished invitees. I convey my congratulations to all researchers who will be presenting their research during the couple of days.

I also request those whose papers were not selected through the double blind reviewing process not to get disheartened because you had competed with many for a placement in the conference. Finally, let me express my heartfelt thanks to the Chairman of the Conference Organizing Team, Dr. Kalpa Samarakoon, Secretary, Dr. Pandula Athawuda Arachchi and the other members of the team for the tireless hours, days and weeks you spent to see the success of this important event.

May the KDU IRC be a haven for establishing scholarly links at national and international levels, which would pave the way for fruitful research, academic and even industrial collaborations for the betterment of our nation, its security and its social, economic and political stability that would in turn pave the way for the creation of a self-sufficient nation in the not so long future. Let us optimistically believe in ourselves and in our potentials to reach that target sooner than later.

Thank you.

Chief Guest Speech

General Kamal Gunaratne (Retd) WWV RWP RSP USP ndc psc MPhil
Secretary - Ministry of Defence, Sri Lanka

Hon. Prof. Subramanian Swamy, Keynote speaker of the 15th International Research Conference 2022 of General Sir John Kotelawala Defence University, Your Excellencies in the Diplomatic Corps, Chief of Defence Staff, Commander of the Army, Commander of the Navy, Chief of the Staff of Sri Lanka Air force, Vice Chancellors of Other Universities, Vice Chancellor of KDU, Eminent speakers from friendly foreign nations, former commandants of KDA, former Chancellors and Vice Chancellors of KDU, Rector of KDU Metropolitan Campus, Rector of KDU Southern Campus and Deputy Vice Chancellors, Deans of Faculties and Directors, Senior Military Officers and Police officers, Distinguished guests, Ladies, and Gentlemen's. Good morning to all of you.

I consider it as a great pleasure and privilege to be present here today as the chief guest of the inauguration ceremony of General Sir John Kotelawala Defence University's International Research Conference, which is taking place for its 15th consecutive time.

Without a doubt it provides as opportunity for academics, professionals, researchers and practitioners from all around the world to share their research findings and expertise addressing mutual challenges in their fields. Further it provides an opportunity for a wide interaction and networking with national and international scholars in respective fields

which in turn proved beneficial for the participants to broaden their horizons of knowledge through intellectual discussions most importantly despite the global pandemic situation and the reason economic, social and political setbacks in effect it is truly inspiring to see that the KDU is continuation the conduct of this conference with renewed spirit and commitment

Therefore, ladies and gentlemen at this moment I would like to encompass

My sincere appreciation to the Vice Chancellor and the conference organizers for the invitation extended for me to be the chief guest to the most significant academic events of this University. In this context of promoting an excellent academic culture generation of knowledge and subsequent applications of it led to innovations and novel technologies that are crucial for the advancement of humanity, well-being, and sustainability. The knowledge is generated by scientific research and at this backdrop, it is delightful to see that the theme of this year's conference reads economic revival, National Security, and Sustainability through the advancement of Science, Technology, and Innovations, which is a well-timed theme reflecting directions that we should pursue as a country irrespective of the boundaries of time and era.

Further, at this moment, ladies and gentlemen, I will be failing in my duty if I do not acknowledge the distinction of a brilliant

keynote address conducted by the former Minister of Commerce Law and the Justice Republic of India, Honorable Professor Subramanian Swamy. Sir, we as Sri Lankans truly appreciate the accept acceptance of our invitation extended to attend and maintain throughout the past in continuation of the display of your friendliness towards Sri Lanka. The ideas that would be shared by you in this eminent forum today will indeed bring a sparkling light to the discussions to be conducted during this conference that will become highly fruitful with your intellectual input.

All the foreign and the local participants including the senior officers of tri-forces and police would be immensely benefited by the inputs that would be given by you to broaden the Horizon of their knowledge.

Moving on to the focus of the conference I must emphasize that with the effects of globalization in effect the growing international interdependencies affecting the Sri Lankan National security as well as reasons concerns raised by economic and political implications. There is a recognized need for assessment of the potential to national security, that may emerge during the thrive towards revival of national economy and sustainability.

As per my belief given the importance of certain sectors to the effective functioning of the Sri Lankan society the said need for a deeper conceptual understanding of the threats that may impact the implied economic revival and sustainability in all aspects focusing on technological scientific and innovative faces would be comprehensively

discussed with in the earnest gathering of intellectuals during these two days.

A strategic standpoint keeping the past and also most recent lessons learned

In mind a newfound leadership of the present government, Sri Lanka should call for national determination where all sectors of Sri Lankan society including civil organizations, security institutions, political entities and business associations come together to discuss fundamental issues such as national identity, national reconciliation, transitional justice, governance structure, economic revival and many more.

This is a fundamental step towards building consensus and religious legitimizing state institutions and private organizations in the country towards a common goal. Not only would such an effort-based process serve as the foundation for a national pact addressing the country's issues, pointing out how it would concurrently compel every group in society to work towards state building and the sustainability of a secure country due consideration to scientific and technological innovations.

Furthermore, giving high priority to providing solutions to the country's most freezing matters of concern to improve the world's image of Sri Lankans society the Sri Lankan government must take every step necessary to recover high-priority initiatives in the fields of the economy, institution-building, and political reform.

Whilst giving true meaning to the said initiatives in order to address emerging challenges promoting more research and development becomes a task of topmost

priority bestowed upon all of us who are present here today.

Fortunately, as a secretary Defence and the Chairman of the KDU Board of Management, I feel tremendously proud and content to state that KDU is at the forefront of researching the development and security related problems holistically.

In this context, one of the unique aspects of KDU IRC in comparison to a plethora of symposia that we witness in the country and beyond its borders remains to be its firm commitment to defence and strategic aspects of the contemporary world with emphasis on local and regional trends.

In that this conference continues to pioneer in upholding the notion that security is a prerequisite for the viability of achievements in all other areas in which mankind relies on in order to facilitate such outcomes it maintains a seamless association of defence and security with other core areas such as Sciences, Medicine, Engineering, Build environment and Spatial Sciences, Technology, Management, and Humanities. We are fundamental knowledge images. To be honest, I personally acknowledge this pragmatic philosophy as a remarkable achievement of KDU and thereby of the country as a whole. Resulting in interactions and dialogue across apparently distinct disciplines will certainly usher increasing exchanges and collaborations among experts in diverse areas, therefore, I am well certain

that all faculties of Sir John Kotelawala Defence University with their interest and commitment to knowledge in diverse academic disciplines and outside researchers' inputs would contribute immensely to this year's research conference theme.

The knowledge that you are giving to another and sharing during this conference would be an immense benefit not only to the academic community but to the entire humankind to make their lives better.

In conclusion, ladies and gentlemen, at the current context we are on the average of striving to accomplish serenity and excellence in an economic revival, national security, and sustainability through unexploited frontiers of technological innovations as a nation. Therefore, conferences of this nature are instrumental in clearing our fond of mind for the betterment of establishing solutions, therefore, let me express my sincere appreciation to the Vice Chancellor and organizers of the 15th KDU IRC 2022 for inviting to this occasion as the chief guest and giving me an opportunity to speak to you. Let me appreciate all the efforts and congratulate all of you for working your way towards a timely and appropriate theme. Finally, I wish all the participants all the very best in their research endeavors and the KDU research conference for 2022 to be successful in every way.

Keynote Speech

Hon Prof Subramanian Swamy
Former Minister of Commerce, Law & justice, India

Hon. Professor Subramanian Swamy, former Cabinet Minister of India made insightful remarks in the keynote address and initiated his speech by extending his gratitude towards Vice chancellor Major General Milinda Peiris for the invitation bestowed on him and went on to acknowledge the presence of the chief guest, Secretary to Ministry of Defence, General Kamal Gunaratne stating, how the Indians themselves couldn't put an end to a major terrorist problem in the region. Professor Swamy recollected how Sri Lanka has never been defeated throughout history, exempting a few setbacks. Furthermore, Professor Swamy remarked how the 21st century isn't going to distinguish between large nations and small nations, as it's a new era with innovations. Speaking from his experience as a trained economist, Professor Subramanian Swamy recalled how all economic development took place when the share of innovation calculated within the GDP rounded up to at least 55%, indicating the development of the USA, Europe and China as examples. He explicated further, mentioned that the growth rate of GDP would be dependent upon the extent to which one innovates. Professor Swamy also recognized the role that could be assumed by the universities in the development of the concept of innovation.

Professor Swamy, elaborated on the inception of the definition of – National security relating to its historical context. He expressed that for most of the 20th century national security had been a matter of military power, and

explicated with the dawn of the 21st century, non-state actors posed most of the challenges to national security as opposed to conventional military warfare. Moreover, professor Swamy emphasized that long-term unsustainable practices make the state more vulnerable to internal and more resilient to external threats. Professor Swamy pointed out the “economic factor” as the primary reason behind Sri Lanka's recent upheaval. Furthermore, he scrutinized the removal of democratically elected people from office, which in turn would disallow them to complete their full term, which he recognized as a blow to the country's national security. Professor Swamy detailed important aspects that need to be regarded in policy formulation; clearly defined structure of objectives, the order of priorities, strategy to achieve them, and resource mobilization. He also stated that no country should be too dependent on one country, and pointed out how Sri Lanka owes a single country, a staggering 52% in internal and external debt. He further resonated that the world has moved from the notion of “development” to “sustainable development”, “sustainable economic development and sustainable national security” during the course of the last thirty years of the 20th century. Professor Swamy asserted that the most stable system of governance is democracy. Furthermore, he perceived economic security, political security, energy security, homeland security, and new technology and innovations to be primary elements that constitute sustainable national

security. Honourable professor Subramanian Swamy concluded his speech by stating that the sustainable national security of a country is the ability to provide comprehensive

protection and holistic defence of citizenry and climate change, other issues of globalization, terrorism and many more.

Vote of Thanks

Dr Kalpa W Samarakoon

*Conference Chair, 15th International Research Conference,
General Sir John Kotelawala Defence University*

The Chief Guest, General Kamal Gunarathne, Secretary to the Ministry of Defence, The keynote speaker, Hon Prof Subramanian Swamy, Chief of the Defence Staff, Commander of the SL Army, Commander of the SL Navy, The Representative of the Commander of the SL Air force, The Vice Chancellor of KDU, The Rector KDU Southern Campus, The Rector KDU Metropolitan Campus, The Deputy Vice-Chancellor (Defence & Administration), The Deputy Vice-Chancellor (Academic), Deans of Faculties, Directors, Senior Professors, Senior Officers of tri-officers, and Police, Distinguished invitees, Colleagues, ladies, and gentlemen. Good morning!

Sri Lankans have been suffering an economic slowdown in the post covid era, in particular, with a social and economic crisis, food insecurity, and inequitable provision of health and education, due to its over-reliance on traditional exports, tourism, and constant geopolitical battles.

In this context, KDU has been successful in organizing its 15th consecutive International Research Conference. We, strategically analyzed the role of academia of the country to collectively come together and facilitate the transfer of knowledge, skills, and solutions using science, technology, and innovation. The IRC theme selection for 2022, aims to provide a multi-professional platform to all the scholars based in Sri Lanka and overseas to bring in their innovative research ideas to fulfil this

national responsibility thrust upon us, to revive the nation's economy, to achieve sustainable economic growth coupled with an environment of justice and enhanced security for all.

This year's conference attracted more than six hundred and ninety paper submissions in 11 sessions the highest-ever submissions since the inception of IRC. This indicates the amount of novel knowledge generated in our country. This year is the conference's inaugural technology and criminal justice sessions.

With deep appreciation and gratitude, I would like to express my heartiest thanks to General Kamal Gunaratne, the secretary to the Ministry of Defence who is our Chief Guest today at KDU-IRC 2022. Sir, your gracious presence in this occasion despite other commitments is truly appreciated and encouraging, and it has certainly added glamour and value to this important event on the KDU calendar.

The same goes with Hon. Prof. Subramanian Swamy. He is a renowned academic and has been a distinguished politician in India and even beyond. Sir, I greatly appreciate your willingness to be our keynote speaker. It is truly an honour, privilege, and inspiration to witness your presence among the KDU community today.

I would like to take this opportunity to express my heartfelt gratitude and deep appreciation to the Vice Chancellor of General Sir John Kotelawala Defence

University, Maj. General Milinda Peiris, with your leadership, guidance, and timely decisions, prevailed throughout the event organization. The event would not be bound to be a success without your active input, particularly under the current difficult context. Thank you indeed Sir.

I will be failing in my duties if I didn't acknowledge the crucial involvement of KDU Deputy Vice-Chancellor (Defence and Administration), Brigadier W. Chandrasiri. He in fact steered KDU-IRC 2022 organization effort providing correct and pragmatic directions successfully even when the team was at difficult crossroads. I would also like to thank the Deputy Vice-Chancellor academic and all faculty Deans and Directors, who held the responsibilities for organizing and conducting forthcoming academic sessions.

Ladies and Gentlemen, as I said before, It has been a seemingly overwhelming challenge to organize, coordinate and conduct a research conference of this magnitude at this time.

I must appreciate the support of our sponsors. Platinum Sponsors, together with banking giants namely, Bank of Ceylon, People's Bank, and special sponsors, Gamma interpharm and George Stuart Health.

Let me take this opportunity to thank generously, conference secretary, Dr Pandula Athaudaarachchi, Senior lecturer and consultant interventional cardiologist, and the tremendous work done by the three co-secretaries, Dr. Gihani Jayaweera, Lt Col Lasitha Amarasekara and Ms. Sandali Goonathilaka, who stood alongside me ever since work has been commenced in mid of

2022 with exceptional commitment. I also thank all the session coordinators who supported tirelessly around the clock from the moment. I am certainly indebted to them for the success of KDU-IRC 2022.

I deeply appreciate all the presidents of the committees, and committee members, faculty committees, Office of Vice-chancellor, Office of DVC, officers of Bursar, Officers of the registrar, Adjutant, co-admin who held and executed the roles and responsibilities over the IRC. A special thank goes to the media and communication team led by the Director of IT, Publishing, printing and editorial committees.

I take this opportunity to thank all authors who shared their valuable research works at KDU-IRC. I thank both internal and external reviewers who perused and evaluated the submissions. Please be assured that your expertise shown and valuable time spent in critical reviewing is duly appreciated.

An event of this dimension cannot happen overnight. The wheels start rolling months in advance, it requires meticulous planning and execution and an eye for details. I cannot thank everyone enough for the involvement they have shown, So please bear with me if I would not have named all the supporters.

I expect that participants of the two-day conference that commenced just now will have an occasion that broadens their horizons of own know-how and improve networking in a refreshing environment which all of us at KDU has attempted to facilitate.

I wish you the very best at the conference.

Thank you very much!

**MANAGEMENT, SOCIAL SCIENCES
AND HUMANITIES**

PLENARY SESSION

A Morpho-Syntactic Approach to Teaching English Grammar

Prof. MG Lalith Ananda

*Professor, Department of English and Linguistics,
Faculty of Humanities and Social Sciences, University of Sri Jayewardenepura, Sri Lanka*

This paper presents a morpho-syntactic approach to teaching English grammar to university undergraduates and/or to Grade 10,11,12 students for whom English is a Second Language (L2). Mainly, it focuses on teaching sentence construction, lexical categories, Tense, and Agreement. The theoretical alignment is Generative Syntax (Chomsky 1980-) as expounded in the Government and Binding Framework. Hence, the selected grammatical phenomena and categories will be looked at in relation to the Argument structure of the verb, predicate type, and complement selection, Tense as a linguistic expression of time (Reichenbach, 1947), and feature composition of lexical/ functional categories. How each of these different grammatical phenomena can be taught is

illustrated in the form of teaching points so that the paper does not limit itself just to unraveling theory. Rather, each theoretical description is supplemented by instructions and activities for its practical application in the ELT classroom. Since this is a presentation of a teaching model, to be experimented with undergraduate learners, or with school students, an exact research problem or hypothesis was not formulated. Nevertheless, it attempts to answer the research question of how the insights of theoretical linguistics, mainly generative syntax, can be applied in the writing of a pedagogical grammar for L2 learners, in a broader perspective.

Misconceptions about plagiarism in South Asian Higher Education

Dr. Sharon McCulloch

*Senior Lecturer, School of Humanities, Language & Global Studies,
University of Central Lancashire, United Kingdom*

So, my talk today is about misconceptions about plagiarism in South Asian higher education, and I want to tell you about a study that I conducted in South Asia on that.

So first of all, we should share a definition of plagiarism so that we all know what we're talking about. So I'm going to share a couple of definitions of plagiarism and then I'll tell you about why we decided to investigate this topic and how we did that study. And then I'll talk about the findings.

And for the findings, I'm going to focus on three main misconceptions that, uh, we found in this study. Okay, so let's think about definitions of plagiarism. I'm going to share two definitions with you, and I'm sure these will be broadly familiar to you. So this first one comes from the Cambridge English Dictionary, and the second one from Jude Carol, um, who's written extensively on plagiarism. And what I want to highlight about these two definitions is that it's not just about copying words. In the first definition, you can see that it refers to a person's ideas. So even if we don't copy paste words, we can't use someone's ideas.

Without acknowledging that, uh, and acknowledging the source. Otherwise, that would be considered plagiarism. And in the second definition, I think what's important is that Jude Carroll highlights

this idea of plagiarism being potentially intentional or unintentional. This is important when it comes to our students because, in my experience, most students don't intend to cheat. They do it because they're not fully informed about what plagiarism really means, or because they misunderstand something about the referencing process. So you may think that these definitions of plagiarism are globally accepted norms, and this is where the idea of, uh, global stability comes in.

But in fact, research tells us that the way plagiarism is understood varies around the world. And that's probably because the way it's taught varies around the world in even in, uh, Anglophone countries, like in the US or in the UK we have to teach our students, I mean, native speakers, we have to teach them about that because otherwise, they don't know.

Um, referencing and plagiarism is kind of that, those systems are unique to higher education, and if students are new to higher education, they probably don't know about that. So we have to teach them. And why in South Asia? Well, as you know, South Asia has a, a big chunk of the world's population. A lot of young people who would like to go and study in higher education and in most South Asian countries, there's a policy of internationalization. In other words, they would like their academics and their

students to be globally mobile and to be able to go and study overseas. If that's going to happen, then um, the students have to know that what they're doing is in line with a globally accepted. Norm, if they're doing some kind of practices, which might be considered plagiarism here in s Lanka and then they go and study in Australia or the UK, they may find that, you know, those things are not considered acceptable and then they are at a disadvantage. So it's important that we are all, um, kind of. Using the same globally accepted norms and supporting our students to follow those norms. Okay, so let me tell you about the study that we did. Our study had two main research questions. The first of these was, uh, to find out what our students and staffs' conceptual understandings of plagiarism. So we were not looking at students' work and trying to see if they've plagiarized. We don't know about this. What we wanted to find out was how well do they understand this concept of plagiarism and how to avoid it. And then secondly, we also wanted to know if there were policies on plagiarism, and if so, how well were these understood.

We collected the data from four countries in South Asia, Sri Lanka, Pakistan, Nepal, and Bangladesh. And from those four countries, we collected data from 14 universities. We did this study in 2019 and um, we collected the data from three stakeholder groups. Those were English language teachers, about 108 of them from subject lecturers who are teaching their own subject, For instance, history through the medium of English.

And then we also collected data from about 1500 students. And we collected the data via, um, questionnaires, interviews, and focus groups. We had an online questionnaire. We distributed the link to that, and then we also asked research assistants to print those questionnaires and give them out in hard copy to their students. So we got a lot of questionnaires that way, and then we also did interviews and focus groups in order to ask for more information. We did classroom observations and we analyzed institutional policies on plagiarism. So let me, um, before I go on, just mention that I didn't do this study by myself. I did that with my colleague, Dr. Bimal Indrarathne, who is from Sri Lanka, but she's based in the UK at the University of York. We were also assisted, um, in this research by five research assistants from the four countries and the research was supported by a grant from the British Council.

So what did we find in this study? Well, let me start with the policy aspect of, of this study. So in the questionnaire, we asked staff, um, how seriously is plagiarism taken in your institution? And as you can see, most staff believed that it was taken. Very or fairly seriously. This was a little bit lower actually, in Sri Lanka.

When we looked at Sri Lanka by itself, it was, um, about 30 or 40% of staff said that it was not taken very seriously. So, um, some disagreement about that and this kind of lack of clarity was also seen in the interviews. So here's a quote from an English teacher in Sri Lanka.

So she said that, you know, teachers are not very sure about there being a university wide policy. They tend to have their own rules or maybe at faculty level. And this is also something we noticed in the interviews when we asked. Lecturers, how do you deal with plagiarism? Um, what's the policy on that?

They tended to say things like, I check by going on to Google, or I don't penalize them. I try to help them. I, so they, they talked about their own individual approach, like they're making their own rules about how to deal with that rather than following an institutional policy in most cases. And when we searched on the public websites, we found that only five out of the 14 universities had a policy on their website.

Um, it may be of course that they had a policy that wasn't on the public website. Okay. Okay, so let's look at students' understanding of plagiarism. In the questionnaire, we ask students, do you know the term plagiarism? And do you know what that means? So more than 75% of students told us in the questionnaire that they know clearly what that means.

So they're fairly confident in their understanding. We were conscious that they might not know the term plagiarism. So we asked them in a different way. We asked them, you know if you use reading material in your writing, do you have to give the author's name or date? And as you can see, 91% of the students said, Yes, it's important to give the author's name and date.

So that's quite a high level of knowledge, um, that the students believe they. However, um, As I told you, we also then did interviews with the students and we could ask for more detail. We could tell them to explain more about that, and this is where we found that there was quite a big gap between what they believed they understood and what they actually understood about plagiarism.

So let's look at three of the main misconceptions that we noticed in the data. So one was that they tended to equate plagiarism with copy pasting. In other words, it's about the words, right? So they believe that if you copy the words maybe from the internet in particular, that is plagiarism. But this then entails that if you don't copy the words, and if you paraphrase, then that would not be plagiarism.

So if we look at a brief example now this, um, a short piece of text, you don't need to read it in detail. This is a piece of text, uh, screenshot from an article by Prof. Ananda. So you may recognize Prof. Ananda, you may recognize your own, um, article. So if a student wanted to avoid plagiarism, they might paraphrase, um, that text. So you can see where they've kind of changed the wording, but of course, this puts the emphasis on the words, not the ideas. And if they did this with no citation, this would be considered plagiarism, even though they've changed the words. They're still copying the ideas and not giving any citations. So this was one big misconception. The second misconception that students had was that kind of the opposite, was that copy would

be okay as long as you give a citation. So here's that quotation from a student in Nepal. So you can see that this student actually has quite a high level of, of knowledge already, right? They, they're familiar with APA. They've heard of that. They know that referencing system. They know that they can't copy and they know that they have to cite. However, this last sentence, unfortunately, shows that they don't really understand. So we can copy and paste, but we must do citations. So in this case, using the same extract from Prof. Ananda. This student may use the same words, just copy the words. Okay, so here we have exactly the same words, but a citation is given. And this student may believe that because they've given a citation, this is okay.

But of course, this is plagiarism, right? The only way that you can copy the words, even if you give a citation, is if you mark it as a quotation. There are no quotation marks here. This student didn't talk about the quotation. So, um, it seems that that is a risk for the student that they may be copying text and thinking that that's okay. And then the third and possibly most puzzling misconception was that in-text citation is not needed. It's just a reference list at the end that you need. So here's an extract from a focus group in Sri Lanka. So again, you can see that the students' kind of, they know, um, that they have to give some kind of acknowledgment of the sources. If they use material from the internet, they will give the author's name at the end. But we ask them, you know, do you also give something in the text itself? And they say, No, not really, only if we

quote. Now, as you know, this is not a rule in any referencing system. You have to give In text citation and the reference list at the end. And here's another example from another focus group.

So here we see that the students are telling us what the teachers tell them. Most of the teachers tell them just to do the references at the end. Um, and. That, that the references are not needed in the text. But of course, this would be considered plagiarism. If they went to the UK this would be a big problem um, or the US for that matter. Any Anglophone country or any country where, where they're kind of tough and they take that seriously, would pick that up as plagiarized. And what we don't really know, um, is what's happened here. We don't know if the teacher was trying to make things simpler for the students by just asking them to do half of the citations, um, and the reference list at the end, or if the teacher also believed that the citation was not needed in the text. So, it's possible that, the teacher also didn't really understand, um, where the citation was needed. So how did this happen? How is it possible that the students can, can have these misconceptions?

And yet they're not aware that they have these misconceptions. They believe that their knowledge about plagiarism is good. We asked lecturers, "do you teach about plagiarism and how do you do that? " and this is what they told us.

We also ask the students, do your lecturers teach you about plagiarism? And you can see that they say no. And the emphasis here seems to be on telling, right? So it's

like the subject lecturer, we tell them to avoid that. Um, but. Maybe telling them is not enough. Right? It's not really that straightforward. It's not that you can't copy, you also can't paraphrase unless you give in text citations. Um, And the subject lecture in Bangladesh says, We give, you know, some kind of awareness, but not the technicalities. But you probably would agree that the technicalities are not really that straightforward. Right? It's a bit complicated. And if you're, you know, if you're 20 years old and you're doing this for the first time, it's. Sure that you're gonna make some mistakes with that. So probably pointing them to a referencing guide and asking them to follow it or warning them not to copy is not enough. So let's, uh, summarize before I finish. So overall there was widespread agreement. Across the staff and the students that understanding and avoiding plagiarism is important.

Most of the students had heard of that. Most of them knew it wasn't acceptable. Um, and the staff also agreed it was important for the students to know that. However, there was a lack of clarity on institutional policies. In some cases, it seemed that institutional policies were not there, they didn't exist, or if they were there, lecturers were not really aware of them. And students also, we also asked students about that and they were not aware, uh, of any clear policy. It seems like some lecturers do this and some lecturers do something different. Students had a limited understanding of what really counts as plagiarism, but they weren't

aware of the limitations of their own knowledge, and this is, I think, you know where the problem really lies.

If they think they understand it, but they don't, then they could easily run into problems, particularly if they want to go and study in angle of phone contexts. And this is probably because there is a lack of teaching and probably partly because there was a lack of teaching about plagiarism. So it seems that staff are just telling students, um, don't copy or don't plagiarize.

Um, and maybe with a moral element to that, but this is not enough. We need to help our students to raise awareness of examples by looking at examples of good or not so good. Um, referencing looking at mistakes, asking the students to correct the mistakes, doing some classroom activities and some formative tasks that would help the students, um, to get to grips with the complexities of that and to learn how to do it correctly.

Okay, so I am going to stop there. This research has been published in the Journal of Higher Education Research and Development. Um, an article about it was also written in the Times Higher Education. If you would like copies of those articles, we would be very happy to send them to you.

You are very welcome to contact me. Um, you can Google me if you don't have time to write down this address and you'll find me, um, online. Thank you very much.

Fostering Resilience for Global Stability

Dr. Nishan de Mel

Founder and Executive Director, Verite Research Pvt Ltd, Colombo, Sri Lanka

Dr. Nishan de Mel claimed that additional revenue can be collected in Sri Lanka by reinstating two underutilized methods of efficient tax collection that were phased out in 2020. That is, with the withholding tax (WHT) and the pay-as-you-earn (PAYE) methods of tax collection without any change in the current, reduced tax rates and a WHT of 10%, the additional revenue that can be collected is estimated to be 0.70% of GDP (which is LKR 184.2 billion in 2023).

Dr. De Mel stressed that tax policy changes were one of the major catalysts for the current economic crisis in Sri Lanka. In 2019, Sri Lanka engaged in momentous tax cuts. The personal income tax rate was reduced from 24 percent to 18 percent. It was stated that the tax-free threshold was increased from half a million rupees to three million rupees. The VAT rate was reduced from 15 percent to 8 percent. The standard corporate income tax rate was reduced from 28 percent to 24 percent. Abolished the PAYE tax, the Service Charge, and withholding tax (WHT) on interest income. As a result of the above-mentioned policy changes, there was a dramatic reduction in the tax base. Dr. De Mel further mentioned that the number of registered taxpayers paying personal income tax decreased by 42 percent. There was a 75 percent reduction in those

registered to pay VAT. Sri Lanka's tax revenue dropped from 12 percent of GDP in 2019 to 7.7 percent in 2021.

Dr. De Mel pointed out that actions without analysis got the country into this crisis and that actions without analysis will not get us out of this mess. Thus, he points out three immediate fixes, which are reinstating WHT at 10% on interest, fees, and other incomes, implementing the taxation formula for cigarettes and reinstating PAYE tax collection (even at current tax rates and thresholds). The additional tax revenue collected by reinstating a 10 percent WHT alone is estimated to be 185 billion rupees for the year 2023. The potential increase in tax revenue from introducing the cigarette taxation formula is estimated at 45 billion rupees.

Further, according to a study conducted in 2020, Samurdhi coverage systematically excludes 58 percent of the eligible recipients, and a sizable number of those who received the Samurdhi payments were ineligible to receive them. At a time like this, it is crucial that cash transfer programs are able to help those in need the most.

Based on the findings of a recent study by Verité Research, Dr. De Mel proposed a

new targeting mechanism that is highly effective at reaching the eligible and excluding the ineligible, efficient at keeping the administrative costs at a minimum, easy to implement, and free from political bias and corruption. The

study proposes targeting households that consume 60 KWH or less electricity. As 99 percent of households are connected to the national grid, electricity usage data is readily available.

The Future of Sri Lankan Industries with Lean Manufacturing Philosophy

Ms. Roshini Muhandiram

Managing Director, Interloop Pvt Ltd, Pakistan

In the modern context, Ms. Roshini Muhandiram explained, the prices of the products are directly determined by the customers due to high competition, whereas earlier they were decided by the production line with the prices of raw materials, profit, etc. Therefore, the existing financial constraints directly affect the solidity of an organization. According to Ms. Roshini, the USA evolved a conceptual process called Lean Manufacturing Philosophy to overcome such issues. It was stated that lean manufacturing is a series of methods designed to minimize the waste of material and labor while maintaining or increasing levels of production. This results in a net improvement in total productivity. She highlighted that Lean manufacturing's roots lie in Japanese manufacturing with the Toyota Production System. The reason was that Japan faced a catastrophic disaster during World War II and had to be self-sufficient to recover its economy. She stated that the Toyota car firm is the clearest example of how Japan overcomes these obstacles by implementing this process. Further, she stated that she was fortunate enough to obtain guidance from Japan and the USA to implement Lean Manufacturing process in MAS Holdings, where she started her career.

Ms. Roshni outlined that her speech was about the practical side of the lean manufacturing process. According to the equation of the business, directly, product prices will be determined by the cost of materials and the profit. As such, the lean manufacturing process highlights the probability of an organization reducing its production costs by improving productivity with fewer resources and a simple manufacturing process. The process can be defined as a strategy for a company to cut costs by eliminating wasteful processes, lowering the number of management layers, and using limited resources to make it efficient with zero waste. She emphasized the importance of QCDSM to achieve operational processes when implementing lean manufacturing. Consistent Quality, Competitive Cost, On Time Delivery, Excellent Safety and High Employee Morale are goals that are attainable provided the companies have the processes in place to achieve them. She says that most successful industries in the world use this concept. According to her, the lean manufacturing concept helps industries in the process of problem-solving as it directs the management to focus on the reasons for the problem rather than the problem itself. It will create a better environment for the workers.

Ms. Roshini showed the way to implement lean manufacturing processes in an organization. First, there is a requirement for mapping the manufacturing process to identify waste, which increases production cost. It considers many kinds of waste, including the waste of excessive human motion, and aims to integrate each step of production into a holistic, efficient process that reduces cost and improves overall revenue. She mentioned that under the lean manufacturing system, seven wastes are identified: overproduction,

inventory, motion, defects, overprocessing, waiting, and transport. At the same time, it was stated that Lean Manufacturing tools, such as Total Quality Management, Total Product Management, Kanban, Take Time, Standard Work, and 5S are intended to help drive out waste, simplify everything, create efficient flow, improve quality control, and make the most of factory resources. She concluded that lean tools provide frameworks to solve problems, measure performance, and analyze and optimize work processes.

TECHNICAL SESSIONS

Micro-Level Determinants and Profitability of the Licensed Long-Term Insurance Companies in Sri Lanka

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Abstract: *With the drastic changes happening in the corporate sector, the relevance of insurance companies gradually grows. They are essential to the country's development and make major contributions. Therefore, the goal of this study is to pinpoint the micro-level factors that influence the financial success of Sri Lankan insurance companies. Return on Assets and five independent factors, including reinsurance dependence, commission ratio, reinsurance premium ratio, leverage ratio, and firm size, are used to assess financial performance. Out of the twenty-eight insurance companies that were accessible for this study from 2013 to 2019, eight long-term licensed insurance companies were chosen at random as the sample. Secondary information is needed and is acquired through annual reports from each company and the IBSL (Insurance Board of Sri Lanka). Multiple regression analysis and descriptive statistics are the statistical methods used in this investigation. Only reinsurance dependence, according to the study, exhibits a statistically significant positive influence on return on assets. Return on assets is statistically significantly impacted negatively by commission ratio, reinsurance premium ratio, debt, and company size.*

Keywords : Insurance, Micro level, Reinsurance, Return on Asset

1. Introduction

Insurance businesses play a significant role in offering a special financial services in the fast-

paced corporate climate. These services range from the assessment of business-related risks to the mobilization of significant sums of money via premiums for long-term investments. According to Akotey, Sackey, Amoah, and Manso (2013), insurers play a role in risk absorption by fostering a "feeling of peace" and the financial stability of the financial markets. Without insurance, the viability of the business world is in doubt because companies are unable to absorb all risks (Ahmed et al., 2016).

Simply put, an insurance company's primary activity is providing profit-making risk insurance. The purpose of insurance is to protect against hazards to the economy, financial institutions, businesses, and households. Insofar as premiums are collected when the contract is put into and claims only accrue if a certain event occurs, insurance is unique in that it reverses the production cycle (Pavic Kramaric, Miletic, & Pavic, 2017). Insurers act as an intermediary in the direct management of risks through diversification and risk pooling, which are strengthened by a variety of different strategies.

The Insurance Regulatory Commission of Sri Lanka (IRCSL), which oversees the country's insurance industry, conducts field investigations, supervises insurers' operations, and evaluates them based on risk. IRCSL also makes sure that insurance businesses' financial performance is sound. Profits motivate shareholders and policyholders to give money to insurance

companies, according to Akotey et al. (2013). As a result, IRCSL views profit as a fundamental prerequisite for operating any insurance firm.

Insurance firms must operate profitably in order to reach the necessary degree of development, given the nature of Sri Lanka's financial system and other economic difficulties. To do that, it is necessary to measure the financial performance of the insurance firms and the elements that affect it. Financial managers primarily concentrate on growing profitability because the primary goal of the company is to enhance shareholder value. Here, one of the key factors affecting an insurance company's performance is its profitability (H. Malik, 2011). Finding out the primary success factors of insurance companies is of interest to investors, academics, financial market experts, and insurance regulators.

This knowledge will lead to the design of rich policies that may improve the profitability of the industry.

The financial success of the insurance firms may be impacted by both micro and macro issues. Reinsurance reliance, premium growth, reinsurance premium ratio, market penetration ratio, leverage, firm size, equity capital, claim costs, commission costs, and reinsurance cost are micro-level determinants of financial performance (Shiu, 2004). (Shiu, 2004). The increase of GDP, the exchange rate, and other macro-level variables are factors that affect financial success.

Despite the fact that micro-level variables typically lead to favorable outcomes, the empirical data is conflicting. According to Ekrezi and Xhuvani (2015) and Shiu (2004), there is no significant association between the size of the company and financial success, but there is a negative significant relationship with microeconomic parameters. Reinsurance

dependency has a detrimental effect on the financial performance of insurance businesses, according to Shiu (2004) and Bélanger (2016). The financial success of insurance businesses was found to be positively correlated with various micro factors, according to some studies (Abdeljawad, Islam and Dwaikat, & Layth M. and Oweidat, 2016) Furthermore, they discovered a significant positive correlation between liquidity and company size.

Only a few studies have been conducted in Sri Lanka to identify the micro-level variables affecting the financial performance of the registered insurance companies there. The dearth of information about the Sri Lankan setting and the lack of consensus among results in the international literature regarding the effects of micro-level factors on the financial performance of the licensed insurance enterprises in Sri Lanka have insurers and policymakers baffled. The performance of the Sri Lankan insurance market may have been improved through effective management of determinants, but it appears that the policymakers did not develop the necessary strategies and policies to do so.

In general, micro-level issues impacting insurance companies have a major impact on both the performance of individual insurance firms and the performance of the insurance system as a whole. The discussion demonstrates that not enough empirical research has been done to examine this phenomenon in the Sri Lankan context. As a result, the goal of this study is to discover whether micro-level variables in Sri Lanka have an effect on the financial performance of insurance companies that are subject to regulation. The main objective of the study is to identify the internal factors that have the greatest influence on the financial performance of Sri Lanka's insurance industry. The steps that need to be made to boost the

organization's profit are then determined by the analysis.

The findings of this study will help senior managers identify the factors that affect client retention, which is more important than client attraction. Customers can also benefit from this study by learning more about the benefits and drawbacks of adopting micro-level characteristics that have an impact on profitability. Future researchers who are examining the elements influencing insurance firm profitability in Sri Lanka or elsewhere will benefit from this work.

2. Literature

The development of commercial and infrastructure firms is greatly aided by insurance (Birhan, 2017). Economic growth may be impacted by the effectiveness of financial intermediaries and risk transmission (Naveed, 2017). Additionally, the insolvency causes a systemic problem, which will have a negative impact on economic growth. Without financial institutions like insurance firms, it can be deduced that the dynamic commercial world would be unstable. This is further demonstrated by the fact that no business is able to predict all potential risks. Insurance companies have a dual responsibility, claim Chen and Wong (2004). Insurance firms need to be profitable in order to invest and to have the necessary solvability to restore other areas of the economy to their pre-damage status.

The variance in earnings among insurance businesses over time within a nation gives rise to the notion that internal characteristics or particular factors of a corporation have a significant impact on profitability. The elements that affect the profitability of insurance businesses have been researched by Angoff and Brown (2007), S. Kozak (2011), Al-Shami and Ali (2015), Wu, Yang, Vela, and Liang (2007), and others. The majority of these studies have concentrated on internal

variables such as leverage, firm size, reinsurance dependence, commission ratio, and reinsurance premium ratio.

Soye, Augustine, Adeyemo, and Lukmon (2017) claim that the term "insurance" merely refers to a business that is engaged in the insurance business accepting the risk. The business accepts this risk in exchange for the premium. Reinsurance is an insurer's insurance (Iqbal & Rehman, 2014). Reinsurance reliance is the potential risk that insurance firms may be exposed to when it comes to the short-term or long-term collectability issue with reinsurance arrangements (Cummins & Weiss, 2012). While Soye et al. (2017), and Burcă and Batrinca (2014) concluded that there is a beneficial benefit of reinsurance dependency, Iqbal & Rehman (2014) found that there is no substantial influence of reinsurance dependency on profitability.

The most significant and trustworthy indication is profitability since it provides a comprehensive picture of an insurance company's capacity to increase its level of income (Sylwester Kozak, 2011). The profitability measures return on asset (ROA), return on equity (ROE), and return on invested capital (ROIC) are often utilized. However, according to the majority of scholars studying the profitability of insurance companies, the key measure of a company's profitability is ROA, which is calculated as before-tax profits divided by total assets (Hardwick & Adams, 2002). (H. M. Malik, 2011). The ROA measures a company's profitability in relation to its total assets.

According to Burcă & Batrinca (2014), the commission ratio of an insurance business is the ratio between commission costs and the premium underwritten by life insurers. Commission ratio, according to Kwon and Wolfrom (2016), sheds light on the relative

weights that brokers and agents have in the distribution of insurance products (relative to direct sales by insurance companies themselves). While Kwon & Wolfrom (2016) discovered a favorable but insignificant impact on profitability, Burcă and Batrinca (2014) identified a considerable negative impact of commission ratio on profitability.

The cost of the reinsurance is determined by the reinsurance premium, and the best reinsurance contracts are found using an objective function/optimization criterion (Cai & Wang, 2019). In general, it is acknowledged that a company's financial strength increases with a lower reinsurance premium ratio (Gallin, 2020). Reinsurance premium ratio has been determined to have a negative impact on insurance company profitability by Wasike and Ngoya (2016) and a favorable impact by Lei (2019).

The riskiness of the owner's investment in the company is indicated by or partially determined by the leverage ratio (FERRARI, 2006). Leverage ratio has been studied as a potential measure of profitability when it comes to comparing total debt to total equity. The results of several investigations are inconsistent. While Chen and Wong (2004) discovered a statistically negative association between leverage and profitability, Naveed (2017) discovered a significant favorable relationship.

A few factors that are used to determine the size of a firm are the number of employees, the number of branches, and the total amount of assets. Total assets have been chosen as an indicator for firm size in research by Omondi and Muturi (2013), Burca and Batrinca (2014), and Al-Shami and Ali (2015). According to Flamini, McDonald, and Schumacher (2009), a larger company will have stronger market position, be able to operate at a lower cost, and hence reap greater rewards. According to

earlier research, firm size has a statistically significant favorable effect on insurance companies' profitability (Al-Shami & Ali 2015), (H. M. Malik, 2011).

According to research by Kumarasinghe (2015), it was discovered that retention risk and leverage ratio had a substantial impact on the financial success of insurance firms. Additionally, age, size, leverage, liquidity, the amount of capital, and underwriting risk are negatively correlated with return on assets, whereas retention ratio and tangibility are positively correlated. Leverage, size, and risk were shown to be the most significant performance factors in the insurance business, while ROA has a statistically negligible relationship with profitability, growth, tangibility, and liquidity, according to Dilhari (2013). According to Mast, Sk, and Bogamuwa's (2020) conclusion, it is preferable to take action to enhance the company's size because doing so will boost its profitability. Additionally, it claims that insurance companies can take on more risk, create appealing plans to draw in consumers, and employ a proper and efficient claim processing process in order to raise their gross written premium.

3. Methodology

Eight authorized long-term insurance companies in Sri Lanka have been chosen in order to meet the study's goals. The Insurance Regulatory Commission of Sri Lanka had granted licenses to 28 insurance businesses by the first of January 2021. (IRCSL). These businesses have been divided into two primary classes by IRCSL: long-term insurance and general insurance. As a result, the finite population was reduced to just the long-term regulated insurance businesses. In Sri Lanka, there are fourteen long-term licensed insurance companies. The Purposive Random technique has been utilized to choose the

sample based on the availability of all six compositions of micro-level determinants of profitability. Data required to complete the study has been gathered from published annual reports of each selected insurance company covering the period of 2013-2019.

A summary of the selected independent and dependent variables and the indicators of each variable is given in table 1.

Table 1: Variables and Indicators

Independent Variable	Reinsurance Dependence (RD)	Premium ceded/Total Asset
	Commission Ratio (CR)	(Commission Paid/Gross Written premium) x 100
	Reinsurance Premium Ratio (RPR)	(Reinsurance Premium Paid/Gross Earned Premium) x 100
	Leverage (LV)	Total Debt/Total Equity
	Company Size (CS)	Total Assets
Dependent Variable	Return on Assets (ROA)	Net Income/Total Asset

Multiple Regression Analysis Methods have been used to identify the determinants of financial performance of licensed long-term insurance companies. This is applied to access the quantitative data from the annual reports of selected insurance companies to access the determinants of profitability.

$$FPER = \alpha + \beta_1 RD + \beta_2 CR + \beta_3 RPR + \beta_4 LV + \beta_5 CS + \epsilon \dots \dots \dots (1)$$

Where, FPER = financial performance of the insurance companies (ROA), α = constant, β degree of sensitivity of independent variable, RD= Reinsurance Dependence, CR= Commission Ratio, RPR = Reinsurance Premium Ratio,

LV= Leverage, CS= Company Size, ROA = Return on Assets, LR = Loss Ratio and ϵ = random error.

Hypotheses

H1: There is an impact of Reinsurance Dependence on the profitability of insurance companies in Sri Lanka.

H2: There is an impact of Commission Ratio on the profitability of insurance companies in Sri Lanka.

H3: There is an impact of Reinsurance Premium Ratio on the profitability of insurance companies in Sri Lanka.

H4: There is an impact of Leverage on the profitability of insurance companies in Sri Lanka.

H5: There is an impact of company size on the profitability of insurance companies in Sri Lanka.

4. Results and Findings

Table 2: Descriptive Statistics

	Min.	Max.	Mean	Std. Deviation
Reinsurance Dependence	0.01	0.46	0.0905	0.11339
Commission Ratio	0.02	29.67	6.1895	6.82344
Reinsurance Premium Ratio	2.97	168.83	21.9625	23.73029
Leverage	-0.40	41.60	4.4179	6.93476
Company Size	965361	264778247	42416274.45	60407589.601
ROA	2.00	118.27	11.6575	17.41851

Note: Amounts are reported in LKR

Thousands; N=56

Table 3: Model Summary

R Squared	Adjusted R Square	Change Statistics		Durbin-Watson
		F Change	Sig. F Change	
.689	.541	1.393	.002	1.907

Reinsurance dependence, commission ratio, reinsurance premium ratio, market penetration ratio, leverage, and company size, according to the regression's findings, accounted for 68.9 percent of the variation in ROA. On the other hand, there is a significant difference in the descriptive power between the dependent and independent variables ($p < 0.05$, $F = 1.393$). In addition, this study's statistical Durbin-Watson coefficient is 1.907. The number is near to 2, which indicates that the residuals' values are not connected by the general rule of thumb. According to the conclusions drawn from the regression statistics, the dependent variable ROA and the independent variable company-level determinants have a great deal of descriptive power together. The model fitness of the chosen variables is thus successful.

Table 4: Coefficient

Variable	B	Coefficient		Sig.	VIF
		β	Std. Error		
(Constant)	17.700	4.690		.000	
Reinsurance Dependence	43.687	24.846	.284	.002	1.066
Commission Ratio	-.482	-.349	-.189	.000	1.360
Reinsurance Premium Ratio	-.209	-.113	-.024	.022	1.203
Leverage	-.243	-.365	-.097	.005	1.1173
Company Size	3.008	.210	.111	.056	1.490

$$\text{FPER} = 4.69 + 24.85\text{RD} - 0.349\text{CR} - 0.113\text{RIP} - .365\text{LV} - 0.21\text{CS}$$

Only reinsurance dependency has a statistically significant beneficial influence, according to the regression results, at 0.284. All other factors have a detrimental effect on ROA. Commission ratio has a statistically significant negative effect on ROA of 0.349, reinsurance premium ratio has a statistically significant negative effect of 0.113, leverage has a statistically significant negative effect of 0.365, and company size has a statistically significant negative effect of 0.210.

Given the VIF values, all the variables (Reinsurance dependency=1.066, Commission ratio =1.360, Reinsurance Premium Ratio =1.203, Leverage =1.173, Company Size =1.490) displayed lower multicollinearity. Leverage, company size, return on assets, reinsurance dependence, commission ratio, reinsurance premium ratio, and standard deviation of the variables were also included in this study. To further verify the normality of the data utilized in this investigation, the normal P-P plot of regression standardized residuals was also taken into consideration. Standardized distribution and a normal p-p plot of the standardized residuals from the regression show that the data are normally distributed.

5. Conclusion and Implications

The demand for a reliable insurance system increased as Sri Lanka's corporate climate developed. Parallel to this, investors and regulators were curious to learn how different variables affected the profitability of insurance businesses in Sri Lanka because this information is essential to the growth of the insurance industry. For the years 2013 through 2019, eight long-term licensed insurance companies have been chosen based

on resource availability. In light of the significance of the distinctive services offered by insurance firms, investors and policymakers as well as customers are interested in strategies to increase the profitability of insurance companies in Sri Lanka. Therefore the main objective of the study addressing is to identify the most significant internal factors affecting the financial performance of the insurance industry in Sri Lanka.

The profitability of insurance firms has been shown to be significantly impacted by reinsurance dependence, commission ratio, reinsurance premium ratio, leverage, and company size. Additionally, there is a correlation between the micro-level variables and the insurance company's ROA. Therefore, the study's findings show that, with the exception of reinsurance dependence, micro-level factors affecting insurance businesses' profitability have had a considerable negative impact on ROA.

The profitability of insurance firms has fluctuated due to a number of factors. The results of this study imply that the performance of the licensed long-term insurer has been significantly impacted by the influence of reinsurance dependence. Reinsurance dependence has also been linked to the insurance company's ROA. The financial performance of insurance businesses is positively impacted, as demonstrated by studies by Burca and Batrinca (2014) and Soye et al. (2017).

According to the study's findings, the performance of Sri Lanka's regulated long-term insurance firms has been significantly harmed by the commission ratio, reinsurance premium ratio, leverage, and company size of the insurance companies. Burca and Batrinca (2014) discovered that commission ratio has a negative impact on ROA, Wasike and Ngoya

(2016) discovered that reinsurance premium ratio has a negative impact on ROA, Kumarasinghe (2015) and Chen and Wong (2004) discovered that leverage has a negative impact on ROA, and Mast et al. (2020), H. M. Malik (2011) and Al-Shami and Ali (2015) discovered that company size has a negative impact on ROA.

According to the study's findings, controlling internal issues can boost a company's financial performance and profitability. This report also advises investors and policymakers on what elements to consider before formulating plans and making investments. Before entering into a contract, customers can also obtain a sense of which insurance provider is the most reliable.

However, the study only looked at information from eight long-term licensed insurance companies in Sri Lanka between the years of 2013 and 2019. As a result, the findings' generalizability is constrained. On the other hand, the study has only looked into the impact of six internal elements that could have an impact on how well insurance businesses perform financially. The profitability of insurance firms can still be impacted by a wide range of other internal and global factors. Additionally, ROA is the only metric used to measure financial performance.

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Current Challenges and Opportunities for Entrepreneurship and SME'S Development in Post-Conflict Areas

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Abstract: *Small and Medium Enterprises (SMEs) play a pivotal role in the socio-economic development and poverty reduction process of any economy in terms of employment generation, growth of GDP, innovation, equitable income distribution, resource utilization and regional development. As a result of the twenty-six years-long civil war, Sri Lanka was unable to realize her full potential in the SME sector despite the endowment in human capital and natural resources. The main objective of this study is to examine the current role of SMEs in different industries, as well as understanding their contribution to the economy and identify the possibilities for promoting SMEs in the whole country including war affected areas. The population of this study consists of all the entrepreneur who lives in post conflict area. in depth interviews is used as the primary data collection source which are predominantly in semi-structured in nature and findings of the study were analyzed using a Thematic analysis and interpretation. The study found that there is a vast opportunity for Sri Lanka to harness the opportunity by developing this vital sector. The paper further, attempts to identify the policy changes necessary for enhancing the role of SMEs in economic development. And also study revealed that medium sized firms (employees between 40-99) have been gaining relatively higher productivity and their contribution for value addition, total output and employment generation is also*

better than micro and small firms. There is a huge potential for this sector to prosper in war-affected areas given the high level of human capital and natural resource endowments.

Keywords: *Entrepreneurs, Post-Conflict, Small and Medium Enterprises (SMEs), Thematic analysis*

1. Introduction

Currently, Sri Lanka has a peaceful environment. However, during the last three decades, due to the civil war between two ethnic groups, the Northern and Eastern Provinces of Sri Lanka were cut off from the development process. This war began in 1983 and finished in 2009. All the parties involved in the civil war suffered heavily. The cost of the war was very high and it was financed through increased taxes, loans, and other government income sources, diverting funds from all types of development projects. The infrastructure facilities such as roads, railways, electricity, water, and telecommunication were not funded throughout the country. Thus, the development rates of the economy have shown downward trends continuously during these three decades. Sri Lanka is not only far behind the developed countries in enterprise development but also in the South-East Asian region. This is a negative sign which ultimately adversely affects the economy of Sri Lanka.

Because of civil the war in North –East of Sri Lanka, the whole economy has been affected in general and North-East Provinces in particular. During the last three decades, a significant amount of resources was diverted into internal conflict and thereby inflation, unemployment, high public debt, and severe budget deficit are still severe problems. As a result of this, governments neglected and postponed the development of war-affected areas even though these areas were tremendously affected by the civil war. A huge amount of human resources, assets, buildings, and houses were destroyed by war. The growth and development of SMEs were in the dark in the war-affected areas during this period. Most of the small and medium enterprises were collapsed and destroyed by the civil war and the remaining enterprises are vulnerable. In other words, internal war brought death and destruction of people, assets and enterprises, especially, death of all medium enterprises. The political economic environment is not conducive to invest on SMEs in Jaffna and other part of North-East region. At present, in Jaffna, most of enterprises are small & medium not large. It is the real facts that having ended the civil war, Jaffna and other part of northern region have potential to develop SMEs and medium enterprises even there are much more defects and flaws. Even though they have resources such as salt, silicon, clay, limestone, fish and livestock, they were not used properly for development purposes. But there is high potential to develop small and medium enterprises within these areas. However, after three decades of civil war, the Sri Lankan government has given more priority to rebuilding Sri Lanka in order to achieve higher economic growth. Now, the government targets to achieve a balanced development in all parts of the country including Northern and Eastern Provinces.

In the present competitive and challenging global environment, a viable and dynamic SME sector is essential for economic development of developing countries. Entrepreneurs and Small Scale business owners plays an important role in economic development through the creation of employment opportunities, the mobilization of domestic savings, poverty alleviation, income distribution, regional development and training of workers. As a result, SMEs have been identified as an important strategic sector for promoting growth and social development of Sri Lanka. Even having finished the war, there is no remarkable progress in the development of SMEs in these areas. Thus, the purpose of this research is to explore the problems and challenges faced by small and medium-size enterprises in post-conflict areas in Sri Lanka.

2. Literature

A. Research Design

The research design that was used in this study was exploratory in nature as it attempts to explore the experiences of entrepreneurs in post conflict areas. It tries to investigate a problem that has been not studied or thoroughly investigated in the past (Formplus blog, 2020).

This study exemplifies an epistemological perspective that is interpretive/constructive, as the primary objective was to gather information from the interviewee's (Entrepreneurs) worldview. The interview questions had no right or wrong answer, but rather, provided a framework for the descriptive process. To further understand and interpret the responses, the audio recording provided contextual pauses and interviewer responses (Astrand et al., 2007).

B. Research Approach

In this study will be conducted as a qualitative research. Under qualitative research series of interview method will be used to understand the behavior and attitude of respondents towards the topic in order to gain an in-depth knowledge in the context. researcher adopted an inductive approach since it explores challenges and opportunities faced by entrepreneurs in post-conflict area. Qualitative research is a rigorous approach to find answers to questions. The researchers conducted the research in a natural setting, and they had to gather the ideas of the participants and to analyze them by looking at common themes and also by focusing on meanings of the participants.

C. Population and Sampling

Population of this study consists of all the entrepreneurs who live in post-conflict area. As it is impossible to use the entire population to conduct the research and also due to time constraints, the authors had selected entrepreneurs in northern and eastern provinces who work in the eastern area as the sample of the given study.

D. Sampling Method and Framework

Purposive sampling method was used as a sampling method for this study. It enables to

squeeze a lot of information out of the data that researchers have collected.

E. Data Collection Procedure

In this research, in-depth interviews were used as the primary data collection source which are predominantly in semi structured in nature. Here, interviewer and interviewee participate in a formal interview where the interviewer uses an interview guide that features a list of open-ended questions that will initiate a conversation on the topic and provide a freedom to both parties to discuss the topic in detail, also letting the interviewer to stray from the guide when felt appropriate (Burgess, 1984).

Secondary sources includes research material published in research reports and similar documents.

F. Data Analysis

After gathering the data, they were analyzed and interpreted. The analysis is based on qualitative features. Thematic analysis method is used to analyse the qualitative data. There are various approaches through which thematic analysis can be conducted, but the most common form follows a six-step process: familiarization, coding, generating themes, reviewing themes, defining and naming themes and the writing up.

Table 1. The demographic characteristics of the selected sample

No	Name	Gender	Town	Age	Business	Experience (years)
01	Mr. N.Kesavarajah	Male	Kilinochchi	52	Spices	12
02	Mrs. R. Nandani	Female	Vavuniya	48	Confectionaries	09
03	Mr. U. Mohommed	Male	Vavuniya	39	Textile	08
04	Mr. M. Uwaiz	Male	Ampara	54	Plastic items	10
05	Mrs. Subathini Ramesh	Female	Batticaloa	49	Palmyra related Products	06
06	Mrs. S.Rani	Male	Ampara	52	Textile	10

Source: Author (2022)

3. Data Analysis and Discussion

A. Perception on the prevalence of challenges and opportunities

The aim of this study is to explore the challenges and opportunities of Small and Medium Scale Enterprises (SMEs) in war torn areas after the ethnic conflict. Therefore,

before analyzing their experiences it was important to find out their perception on the particular matter. It was inquired from all the academics at the outset of the interview whether they admit that they face more challenges than the rest of the country and whether they have more entrepreneurial opportunities in the region. Results are illustrated in Table 2.

Table 2. Perception on the Prevalence of Challenges and Opportunities

Businessman	Acceptance of the Prevalence of Challenges (Yes/No)	Extent of Challenges (High/Medium /Low)	Acceptance of the Prevalence of Opportunities (Yes/No)	Extent of Opportunities (High/Medium/ Low)
Mr. N.Kesavarajah	Yes	High	Yes	Medium
Mrs. R.Nandani	Yes	Medium	Yes	Medium
Mr. U.Mohammed	Yes	High	Yes	High
Mr. M.Uwaiz	Yes	High	Yes	High
Mrs. Subathini Ramesh	Yes	High	Yes	Low
Mrs. S.Rani	Yes	Medium	Yes	High

Source: Author (2022)

Strong evidence was found in this study on highlighting the existence of challenges and opportunities in the considered regions. According to the above table (Table 2), all the small and medium businessmen have admitted that there are challenges and opportunities met by them as SMEs in war-torn areas, where its gravity changes from high extent to medium and low extent. The collective idea of all the respondents was although there are people who are interested in starting up their own business due to these challenges they are showing reluctance to grab the available opportunities.

B. Organizing Themes

In this study, two themes were identified namely challenges and opportunities faced by the SME businessmen across all the participants. Each theme was also explored through the results of many reading endeavors to acquire further insight resulting numerous constructs.

As a result, Economic challenges, Production and marketing challenges, Challenges in infrastructure, Social Challenges, Educational challenges and Political challenges were identified as constructs of challenges whereas, Availability of resources, Room for new business ventures, Gap in demand and supply and finally, Support from foreign countries and NGOs were considered as the constructs of

opportunities. Some interpretations were difficult to be precisely placed under one construct since. For example, I had to re-examine and search more in placing “high material cost”. It was very doubtful whether the latter was an economics challenge or a production and marketing challenge.

However, the following thematic map was produced to display key themes in relation to the research questions. Additional interview transcripts were analyzed and the thematic map was refined further. Thematic Map developed based on the analysis of the data is presented below.

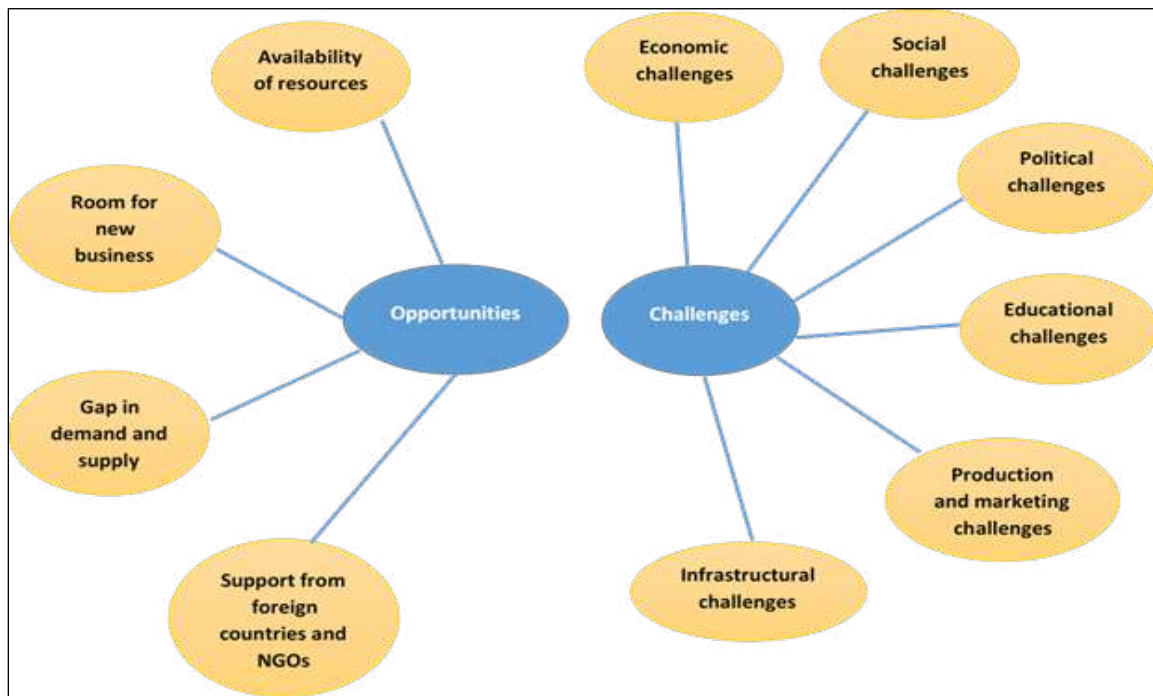


Figure 1. First Level Thematic Map

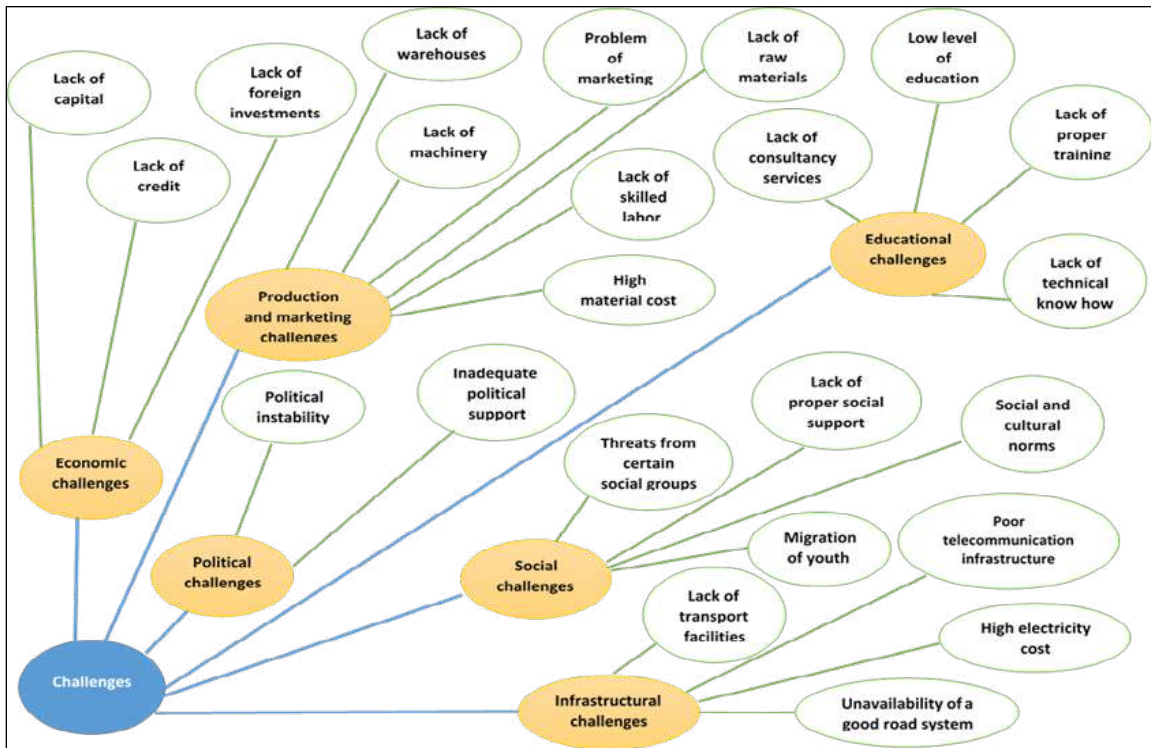


Figure 2. Second Level Thematic Map-A

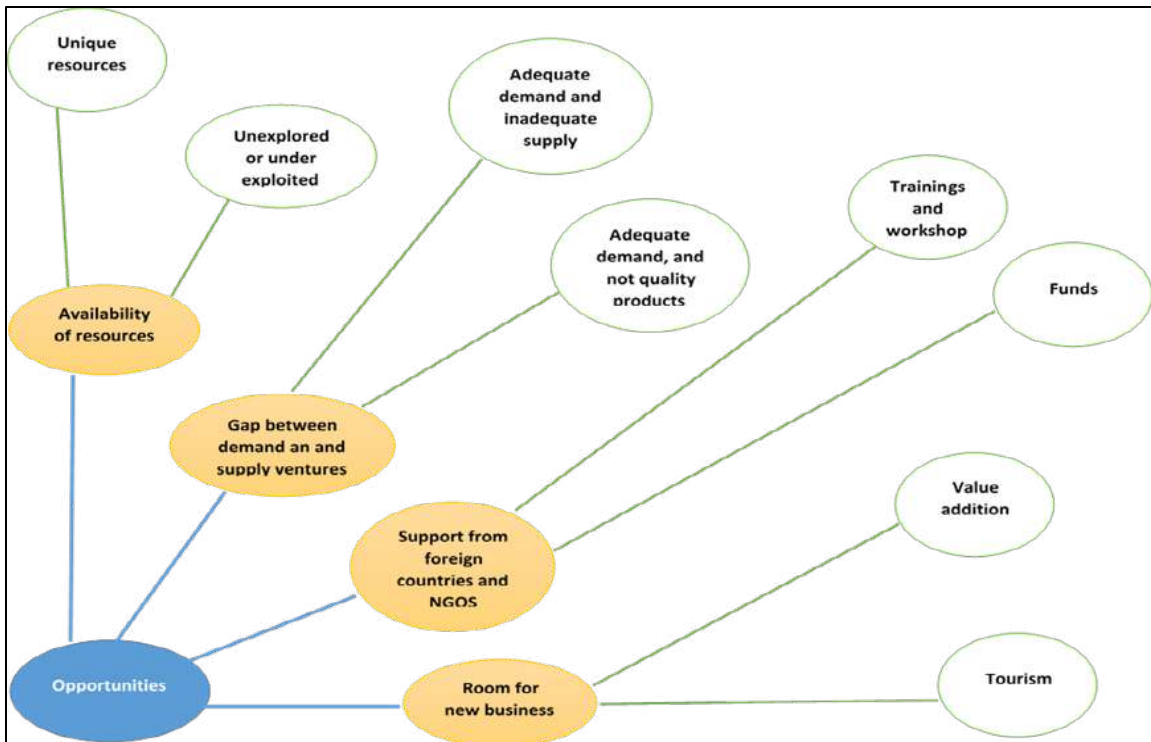


Figure 3. Second level of thematic map-B

C. Challenges faced by SMEs in Post-Conflict Areas

Numerous challenges were identified by the researchers that are believed to be constraining the smooth function of enterprises in Northern and Eastern Province.

Economic challenges, social challenges, educational challenges, political challenges, production and marketing challenges, and challenges related to infrastructure were identified as such crucial impediments to growing small and medium enterprises in Northern and Eastern provinces during post-war. Each aspect is summerized in Table 3.

Table 3. Data Analysis and Interpretation Process of Theme 01-Challenges

Excerpts	Interpretation	Construct	Theme
<i>"We lost our years of savings and wealth to the war"</i>	1. Lack of capital	Economic Challenges	Challenges
<i>"Banks advertise saying they are going to help. But when we request for loans they treat us like thieves"</i> <i>"Banks have a lengthy, complex process. When everything is okay to grant the loan, I might be about to die"</i>	2. Lack of credit facilities		
<i>"It is being a long period from ceasing the war. But still foreigners don't trust to invest on us. I hope at least our children won't have the same plight"</i>	3. Lack of foreign investment		
<i>"There are no quality, spacious warehouses in this area. So we cannot store our raw materials and products for a long time". "We can produce only a little at time because of no place with large space"</i>	4. Lack of warehouses in post conflicts areas	Production and Marketing Challenges	
<i>"I want to advertise about my products. I want the whole country to know what I produce. But we do not have any access to media. We have presses here, but I want the people to see my products"</i> <i>"My village men don't care about what has been used in packaging the spices. They just want chili powder and that's it. So I don't bother about the packing of my spices"</i>	5. Problem of marketing their products		
<i>"It takes a lot of time to produce one packet of turmeric powder. If I could buy a large milling machine the task will be easier and quicker"</i>	6. Inability to find the needed machinery		
<i>"It is difficult to find quality chilies, turmeric, cardamom, coriander in this area. Our climate is not suitable for those and also people don't try to cultivate them"</i>	7. Problem of finding raw materials		
<i>"Materials such as plastics, polythene available here are very expensive"</i> <i>"Raw material cost is so high here. I have to go to Pamunuwa to buy the clothing materials at a cheap price"</i>	8. High material costs		

<p><i>"Only few workers have experiences related to spice production. Even though I want to expand my business, due to this hindrance I am stuck in the same place"</i></p> <p><i>"Our workers do not show up regularly. Because of that we cannot achieve our charges. We cannot fire them since it is hard to find labor here."</i></p>	9. Lack of skilled labor		
<p><i>"It is very difficult to find vehicles to send products to the market"</i></p>	10. Lack of transport facilities	Challenges in Infrastructure	
<p><i>"We have heard people saying about selling through Facebook. We also like it. But our children say that we don't have connection here".</i></p>	11. Poor telecommunication infrastructure		
<p><i>"It takes too much time to transport raw materials and products"</i></p> <p><i>"Vehicles are not willing to transport our products to the market because the roads are broken."</i></p>	12. Unavailability of a good road system		
<p><i>"Sometimes the profits from the businesses are completely spent on covering the electricity bills"</i></p>	13. High electricity cost		
<p><i>"Earlier LTTE people looted us. Now some groups of thugs are collecting money from us at the end of every month"</i></p>	14. Threats from certain social groups	Social Challenges	
<p><i>"People still look at us in distrust. This will continue until the end"</i></p>	15. Lack of proper social support		
<p><i>"As a woman it is so difficult to start a business here. Not even my relatives helped me in my business. They still say that women should not do such things"</i></p>	16. Social and cultural norms		
<p><i>"Most of the good families have moved other countries to escape civil unrest between Sinhalese and Tamils"</i></p> <p><i>"Youth in the has migrated to other areas in search of jobs"</i></p>	17. Migration of youth		
<p><i>"At that time our life was more important to us than education. None of us received any education. I can't remember whether there were teachers even."</i></p> <p><i>"My business would be much easier if I could learn English"</i></p>	18. Low level of education	Educational Challenges	
<p><i>"I wish we had any training programs to teach us recent trends in business".</i></p> <p><i>"My employees are willing to take trainings in spice production. But there are no such trainings"</i></p>	19. Lack of proper training on innovative business practices		
<p><i>"We produce these by following the way our ancestors did. We do not follow any specific technical process to make this products"</i></p>	20. Lack of technical knowhow		

<i>"I like to send my products to Colombo too. But don't know how to make them aware about my products".</i>			
<i>"In building up our business we faced so many problems. It would have been better if we had someplace which could guide us"</i>	21. Lack of consultancy services		
<i>"Politicians only support their supporters"</i>	22. Inadequate political support		
<i>"Government has no proper policies for the betterment of the businesses and they frequently change subsidies and other facilities"</i>	23. Political instability	Political Challenges	

Source: Author (2022)

D. Opportunities to develop the SMEs in Jaffna District:

The Northern and Eastern regions of Sri Lanka are comprised of plenty of unique and valuable resources. These resources and locations remain untouched and unutilized financially.

As understood by the research, these opportunities include availability of resources, room for new business ventures, gap in demand and supply and support from foreign countries and NGOs.

Table 4. Data analysis and interpretation pertaining to the Objective 01

Excerpts	Interpretation	Construct	Theme
<i>"On one hand we are blessed. We have beautiful beaches, hot water springs that others don't have".</i>	1. Unique resources	Availability of Resources	Opportunities
<i>"We have huge extents of abandoned lands. The soil is so fertile. But nobody makes use of those"</i>	2. Unexplored or under exploited resources		
<i>"I make only containers from Palmyra, but there are numerous products we can make as value additions. For example, my Appa used to make some sweetmeats from Palmyra"</i>	3. Value addition	Room for New Business Ventures	
<i>"We can attract foreigners to our region using and potential locations, beaches and marine land"</i>	4. Tourism		
<i>"I produce only spices. But customers ask for ghee, coconut oil from me. At the time I can't produce those. But if one wishes, there is a good demand for those here"</i>	5. Adequate demand and inadequate supply	Gap in Demand and Supply	
<i>"People here also ponder about the quality. Most of the time the fruits brought here from other areas are"</i>	6. Adequate demand, and not quality products		

<i>damaged. Therefore, they do not buy them. If we can make that process we can make a good market here"</i>			
<i>"A few training programs have been conducted by American corner, Jaffna.</i>	7. Trainings and workshops	Support from Foreign Countries and NGOs	
<i>"Now Tamil Diasporas has started sending money. It's better if the Government could coordinate that process. After all, they are our people and these funds are very important to us".</i>	8. Funds		

Source: Author (2022)

E. Discussion

Results exhibited that there are numerous challenges and comprised of plenty of unique and valuable resources for entrepreneurship and SME'S development in post-conflict areas. One of the major forms of challenges faced by the SMEs in the considered region is economic challenges. No matter what measures have been taken by the government, still they are struggling with finding the needed finance for their business. The three main codes studied under this are lack of capital, lack of credit facilities and lack of foreign investments. The dwellers of this region have undergone various losses during the period of war. All their belongings, wealth and money were looted by the members of LTTE making their life miserable.

Another series of problems affecting SMEs are concerned with their production and marketing. They are facing numerous related difficulties. The researcher could identify several such major codes. Those are lack of warehouses in post conflicts areas, problem of marketing their products, inability to find the needed machinery, problem of finding raw materials, high material costs, and lack of skilled labor.

The lack of adequate infrastructure facilities also hampers the progress of this sector. The

prosperity of enterprises is dependent on the availability of key infrastructure services such as electricity, water, telephones and road access. The businesses in the particular region suffer by poor quality of infrastructures. Unavailability or functioning at an unsatisfactory level of these factors have caused the SMEs covered through this study to face a pathetic situation.

The SMEs have undergone severe social challenges as, Threats from certain social groups, Lack of proper social support, Social and cultural norms, and Migration of youth. This particular region was ruthlessly devastated by the terrorist activities. They had robbed all the possessions of the dwellers and harmed their life. Now they are starting their lives from the zeroth level. Nevertheless, at the time of speaking too they are subjected to threatening and being robbed. Several gangsters have got together and have created gangs with the prime objective of collecting money from the businessmen as ransom. If they deny to pay the money they will be physically harmed.

The level of education of the owner of the enterprise has a direct impact on the growth of SMEs (Amaradiwakara & Gunatilake, 2017).Taraba et al. (2015) states that also holistic competences of entrepreneurs are very important in the context of risk

management. The higher education of an entrepreneur is, the wider knowledge of economic regularities of the market and the more accurate forecasting of the circumstances in business environment are (Virglerova, 2017). Wang (2012) has disclosed that higher educated entrepreneurs can manage the firm-specific financial risks better. With the gaining of higher education a person gets to know about different sources of capital, by which he/she can invest in research and development that can increase the innovation of a small business from the specific market. But the people of the war-torn areas were deprived of their right to education due to the long-lasting war.

The political support extended for the betterment of these SMEs is inadequate and unsatisfactory. The entrepreneurs grieved saying that "Politicians only support for their supporters. The lack of a comprehensive framework in terms of policies toward SMEs development is one of the most important factors that constraint the growth and development of SMEs. There is no national policy for industrial development of the country and the policies are changing with government changes. Even though prolonged internal war has come to end, political stability in Jaffna –Northern and Eastern region is not conducive and satisfactory (Vijayakumar, 2012).

Northern and Eastern provinces are blessed with resources which are unique to the region. For example, in eastern province they can easily find Palmyra, limestones, coal, oil, marine resources, clay and various kinds of minerals. (Nishantha & Padmasiri, 2010). Natural resources such as beaches and marine are also unique to this particular region. Most of the time, nobody makes use of these resources. These resources can be introduced to the people who are interested in starting

SMEs as the new business ideas. And also they have more agricultural lands. Before the civil war the region's agricultural production compared favorably with that of other parts of the country, mainly rice, vegetables, fruit, and other cash crops. There is a potential for lucrative agri-businesses in the region. Crop agriculture (red onion, chilli, potato and tobacco), livestock farms (meat, milk and egg production), and fisheries can be developed as major economic activities in the Northern Province. SMEs can add value for those primary products and market to the other parts of the country and export markets. According to Sarvananthan (2007), Eastern Province could become industrial economy and tourist center in the long run.

According to the World Bank (2009), with the gradual resettlement of the displaced people after ending the war and restoration of their livelihoods, agriculture and SME production is expected to pick up. At the same time, regional demand will be created for SME products. This generates adequate demand for numerous products, but the supply will be inadequate since still a good platform is not built to cater this demand.

NGOs in the North and the East (some of which have received support or worked in collaboration with a USAID supported program) are working to upgrade the livelihoods of the target populations. These NGOs possess strong organizational capacity, a framework for identifying the needs of the SMEs and provide the trainings on the required skill development. A few training programs have been conducted by American corner, Jaffna already. In collaboration with other donor partners, such as CIDA, GIZ and WUSC as appropriate, provide support to civil society organizations providing demand-driven vocational technical training that results in job placements.

4. Conclusion

SMEs make up a large part of Sri Lanka's economy, accounting for 80% of all businesses. SMEs are an essential source of employment opportunities and are estimated to contribute about 35% of employment (Bandara and Rathnasiri, 2016). On this regard, SMEs are immensely significant in enhancing the lifestyle and status of the people in war-torn areas. Therefore, this research intended to investigate the challenges and opportunities encountered by these SME owners in the post-war period.

In conclusion, as identified the types of challenges faced by SMEs in particular areas are, economic challenges, social challenges, educational challenges, political challenges, production and marketing challenges, and challenges related to infrastructure. For many SMEs, however, their potential is often not fully realized due to factors related to lack of resources (finance, technology, skilled labor, market access, and market information); higher transaction costs relative to large enterprises; lack of networks that can contribute to a lack of information, know-how. On the other hand, it was revealed that they are exposed with the opportunities related to the availability of resources, room for new business ventures, gap in demand and supply and support from foreign countries and NGOs. The problem associated with these is, they do not tend to grasp these opportunities.

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Abbreviations

CIDA- Canadian International Development Agency

GDP – Gross Domestic Product

GIZ – German Agency for International Cooperation

NGOs – Non-Governmental Organizations

SMEs – Small And Medium Size Enterprises

USAID – The United States Agency for International Development

WUSC – World University Service of Canada

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The Development of Peace and Conflict During the 21st Century in Relevance with Afghanistan Warfare

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Abstract: *The Present global order has been turned in to competitive manner due to the empowered regional superpowers, superpower rivalries upon fulfillment of political, Economic and Strategic agendas and concepts of Legitimacy, Sovereignty, Religious extremism and Democracy. Even though, The United Nations was established in order to keep global governance against the destructive, violent conflicts, up to day in many occasions it hasn't. Many proxy warfares has been taken place all around the world on achieving the regional hegemony towards many aspects. Afghanistan, being a battleground for many years, has experienced violations of its external and internal sovereignty by Russia and United States under the globalized justifications, upon protecting Afghan's internal sovereignty and legitimate ruling. In midst the struggles and proxies, made Afghanistan vulnerable to much interference such as internal conflicts by the armed fractions and external invasions by emerging superpowers. It caused in to grave damage on each and every aspect which required for futuristic development of a country such as destruction of infrastructure, brain drain, weakened rule of law and poor governance etc. Instead of that, this research focuses on the sudden power transition from United States who played a vital role in Afghanistan, with the concept "War on Terrorism" to Taliban; who was the major armed fraction in Afghanistan and the futuristic challenges ahead of Afghanistan.*

Keywords: *Legitimacy, Sovereignty, Religious Extremism, Democracy, proxy warfare, Regional hegemony, Armed fractions, Governance, Rule of Law*

1. Introduction

A. Background of the study

Present day global politics consist of various kinds of systems which have been focused upon a global agenda by concerning on democracy, sovereignty and legitimacy. Since the global order adopted on a multipolar system, power struggle has been emerged between the regional superpowers that have been intended to handle the economic, social and geo politics of the particular region. Afghanistan, being a landlocked country, bordered with Russia, Iran, and Pakistan. So, Afghanistan also became a battleground for many superpowers since decades due to the importance of geo politics of the region.

Afghanistan being a sovereign country for decades, faced many interferences both internal and external interferences. External physical interventions from various superpowers such as Russia, USA & Pakistan and internally from the militant fractions such as Taliban etc. so the other non-physical interventions took part by china, Saudi Arabia and Iran apart of military interventions. These interventions have justified by different faces at different times by those who intervened, caused in to lot of deaths, casualties and loss of properties for both sides. For decades that

made Afghanistan's governments fragile and unable to use its legitimate force upon protecting the internal and external sovereignty.

In midst all interventions Taliban grew up with many hands from some actors who assisted them. Inability of the Afghan government made them much more powerful and it led them on a considerable extent to get the total control of the country while dragging in to a situation even USA had to negotiate upon withdrawing their troops from there. It made the U.S.A interventions towards the Afghanistan's security worthless within a few months of time. U.S.A left majority of their latest military equipment at their withdrawal back by remaining a question upon the future of Afghanistan. Russia and China, being huge stakeholders in the global economy, they agreed on assisting newly appointed Taliban government to build up the country. Even being a sovereign country among the United Nations, Taliban cannot standalone within the existing geo political system, competitive economy with the exiting damaged infrastructure and brain drain, where they have to move towards a new way instead of violence & use of force. This research focuses upon the internal & external actors, their involvements towards Afghanistan; How Taliban will make an approach towards governing the country, how they will make a transformation within a legitimate framework and what will be the necessary foreign policy and strategy implications they could follow.

2. Research Aims and Objectives

Aim of the study is to focus upon the latest incidents which took place in Afghanistan and to concern towards the futuristic movements and opportunities, which available for Afghanistan within the global community. The sudden transition of power has made a vacuum which vulnerable to seek on. Global

superpowers could concern it as an opportunity to both parties and it would be the initial movement on their new journey. An objective of this study comes as, to evaluate the historical interventions which intervened in Afghan politics internally and externally. It consists of the external involvements of global campaigns, proxy warfares and superpower rivalries which took place. Also, it focuses on the internal fractions and power struggle that caused in to Afghanistan warfare. Next objective is to evaluate Taliban's new possible approaches towards future governance of Afghanistan. Since being a military fraction, they have many challenges ahead of them to build the country in each and every aspect. Their future strategies on economy, politics, and security will be decisive factors in the global forum. The next objective is to evaluate their transformation on a legitimate framework with a relevant foreign policy, other policies, and strategies including further recommendations.

A. Research problem and research questions

How Afghanistan will reach on upcoming future opportunities after their power transition, while safeguarding its national interests? In the present global order Afghanistan faced many challenges as a country due to various kinds of interferences such as internal and external threats upon sovereignty, interruptions on its legitimate use of power within its boundaries, and to stand as an independent country. They have missed much more opportunities due to above mentioned interruptions and conflict situations over years and years. Then it caused on degrading their economy, infrastructure, damages on the workforce and other aspects as brain drain etc. but the recent transition of power made them a situation where to keep a pause on conflicts and to concern on a wider view than previous.

Since Taliban took power by use of force, they cannot continue it to the global community. There they have to concern on a legitimate framework to get the public in to a unified way in order to overcome the emerging challenges. There they have to face those challenges as a country, on obtaining global recognition and acceptance, implementation of human rights according to the global charter, developing an inclusive economy, and to create a peaceful environment with gender equality. Especially the considerable point is that, they have to safeguard their national interests as an independent country because they were failed on that over the previous decades. Afghanistan has to prevent being a battleground again for the global and neighboring superpower rivalries and the overspill of conflicts in to its territory. So, have to concern on, who are the actors and stakeholders of this warfare and what are their involvements? How Taliban will handle the power transition into a transformation? And what are the implications they could adopt on safeguarding the national interests?

B. Significance of the research

In the Modern world, conflicts have been taken place due to deprivation of needs in various ways. The significance of this study is to focus on historical aspects, actors, their motives, proxy warfares and other matters which caused in to long driven conflicts in Afghanistan, over decades many third world countries faced the problem of being sovereign states by having political and socio-economic independence. Multipolar world pattern has made many regional superpowers due to the development of technology and competition over the resources. Various effects have been emerged due to geopolitical and strategies over superpower rivalries. Effects of those factors in degrading a country, and to study on the factors affected on a sudden power transition and its impact on Afghanistan.

Recently Taliban took over the whole territory being a military fraction within the country. It took much assistance with the citizens and some of the Afghan military personnel. So, should focus how the motives of the stakeholders are effecting during the conflicts. They supposed to face many challenges being the ruling party of Afghanistan.

So, have to focus on how the newly ruling Taliban will grabbing ups the upcoming global opportunities as a country. Also have to concentrate towards the peace making and peacebuilding processes which have to take place according to the situation. When synchronizing to existing global pattern Afghanistan has to keep on alert.

Since Taliban have received much military equipment that left by the US forces who withdrew recently, there will be a vast opportunity for overspill or spreading of Taliban. So, have to study instead of use of force and violence how they will adopt on the global standards of human rights, gender equality and the usage of legitimate power & governing. There the concentration should be towards the upcoming motives of global powers and organizations on assisting Afghanistan to become a country instead of a battleground. Almost actions were taken by Russia and China to provide them the acceptance and recognition in the global forum by aiding Afghan economy, social strata and infrastructure. So, the future of Afghanistan will be decided on this transitive moment.

C. Potential limitation of the study

This study consists of limitations such as Dependence on the documentaries due to the method of obtaining the information subject to the qualitative method of the study. Also, it is narrowing the scope on view accordance with the view of the originator. There it drags the study in to a limited scope. Also, it causes to difficulties on interpreting the dynamic

movements of the foreign actors. Within a small period, there will be a change in the actions of global actors who involving these scenarios. So, by the study it is difficult to interpret the exact movements or decisions they are making. So, have to face upon difficulties towards forecasting the futuristic global movements by the scope of view.

Since there are many actors have involved in the Afghan warfare, their activities, strategies, aims and motives are differ from another to another. That is making their future actions unpredictable. Furthermore, actor to actor they have aimed to fulfill their various motives in economic, political and social aspects in Afghanistan by selling of weapons, laundering of money, smuggling of drugs and human, territorial disputes etc.

On the other hand, being a military fraction Taliban didn't had any kind of experiences regarding ruling a country before. But without much resistance within weeks Whole Afghanistan fell in to the hands of Taliban, since they got the sympathy of citizens. It reminds that even any party cannot submerge the human emotions by even legitimate or illegitimate use of force. That political movement keep remain a question upon the future of the Afghanistan's ruling system. They have to adopt on a suitable way of governing instead of using weapons and terrorism.

Meanwhile Afghanistan has to step in to the global order with the assistance of some powerful actors. By empowering the legal institutions and implementations of global standards in a democratic manner, will make some approaches towards the global setup. But the violations of those standards will result in to a worst situation rather than warfare. So, the ruling party has to reach on acceptance and recognition in lined with global charters.

3. Literature Review

Afghanistan being a landlocked country which neighbored by Russia, Iran and Pakistan had a peaceful ruling era till 1973 until the political coups take place. After those political instabilities, Afghanistan faced much interference upon its political freedom and sovereignty since 1979. It began with the interventions of Soviet Russia's invasion on the motive of assisting the ruling party which called as "People's Democratic Party of Afghanistan" also named as "PDPA". There it made much patriotic interventions of some internal military fractions to stand against the intruders. A considerable resistance was given by the "Afghan Mujahedeen" mean time they received the assistance by countries such as Germany, China, Egypt, Saudi Arabia, Pakistan, United States and United Kingdom etc. (Republic et al., 2001). Due to the withdrawal of soviet forces above countries became the external actors of this warfare.

The assistance for internal military fractions was provided by Saudi Arabia, Iran etc. That made because of their aspirations upon regional hegemony and forecasting of Afghan instability as a gateway on implement their strategies. That instability was created due to another crucial factor of the weakened border security. Because of the surrounding borders Afghans were unable to prevent the movements which infiltrate their borders (Oliker, n.d.) Taliban and the northern alliance being the military fractions within the country, they received many opportunities to join with the democratic alliance. But it was refused by them in 1994. 1996, as the Taliban prepared for another major onslaught with military help from Pakistan and financial support from Saudi Arabia. On September 27, 1996, the Taliban captured Kabul and declared the Islamic Emirate of Afghanistan. The Taliban began planning offensives against Ahmad Shah Massoud and Abdul Rashid Dostum's remaining areas of authority. Former

adversaries Massoud and Dostum banded together to establish the United Front (Northern Alliance) against the Taliban. In addition to Massoud's predominantly Tajik forces and Dostum's predominantly Uzbek forces, the United Front comprised Hazara factions and Pashtun forces led by commanders. That made Taliban, Al-Qaeda, Pakistani ISI, Russian KGB, and US CIA main actors of the conflict.

The key incident made by the attack on September 11, 2001 attack on US. With the support of NATO and nearly 40 countries, the United States invaded Afghanistan in pursuit of the War on Terror in 2001. The United States has legitimized its military activities as 'Operation Enduring Freedom' from 2001 to 2014 and 'Operation Freedom's Sentinel' from 2015 to the present for over two decades. Over 100,000 civilians and 60,000 security personnel have been killed as a result of these military operations. This article focuses on US military activities in Afghanistan since 2001, whether they were carried out by the US or on its behalf. It analyses the detrimental repercussions on Afghanistan's stability and draws attention to the new paradigm, in addition to asking whether such military actions are in accordance with international law. (Asia & Connah, 2021). The United States' participation in Afghanistan is linked to past US initiatives, such as the Iraq conflict. Both are examples of large-scale warfare in the aftermath of September 11th. External action in Afghanistan is justified for the sake of the state's and region's future security.

But the impact on Afghanistan's sovereignty and legitimacy was not questioned anymore with those justifications as "war on terror". There some considerable points have remained as "(a) there must be a just cause to go to war; (b) the decision ought to be made by a legitimate authority; (c) force is to be used only with the right intention and as a last

resort; (d) there must be a reasonable hope for success, with peace as the expected outcome and (e) the use of force must be proportionate and discriminate." (Asia & Connah, 2021). But At the time, the United States was correct in holding the Taliban responsible for allowing al Qaeda to establish a foothold in Afghanistan. As a result, the Taliban may be regarded indirectly responsible for 9/11 to some extent. As a result, the foreign involvement was justified, because removing the Taliban would jeopardize the organization's ability to function.

Following al-September Qaeda's 11, 2001, attacks, the United States invaded Afghanistan after the Taliban administration refused to hand up terrorist leader Osama bin Laden. The Taliban swiftly lost control of the country and fled to southern Afghanistan and Pakistan. They launched an insurgency against Kabul's Western-backed government, Afghan national security forces, and international coalition soldiers from there. Due to the intensity of the attacks, incidents took place and the difficulties on operating within the territory, US and Taliban made an agreement upon withdrawing troops within an agreed time frame. Within 135 days, reduce US forces to around 8,500 and achieve a full pullout within 14 months (Tracker, 2021) so it highlights the impact of proxy wars on an unfamiliar ground. Despite the withdrawal of Western troops, the Taliban increased their military onslaught. In addition to the Taliban's push, Afghanistan is under threat from the Islamic State in Khorasan, which has increased its position in numerous eastern districts, attacked Kabul, and carried out suicide attacks against civilians. So, Taliban became more aggressive on that.

There the declaration by US towards the war on terrorism made kind of an influence to the jihad extremists upon unifying fighters against the westernized attacks on their soil. Also, it made a patriotic appearance towards their

campaign. It meant on their ideologies as a modernized crusade against the western. But the western countries promoted it under a campaign of spreading the freedom (Verma, 2021). Finally, the usage of adopted strategies caused in to overspill of terrorists over other countries. Many official violations of UN charters were occurred during the drone attacks etc. Mean time it proved the effects of promoting good governance, poor war reconstruction, prolonged military interventions, violations of human rights and smuggling of opium.

There the aspirations of other external global actors became much viral on this conflict, Increased Indian presence in the Persian Gulf would certainly be viewed negatively by Pakistan, as Pakistan is already reacting to expanding Indian involvement in Afghanistan, perhaps exacerbating tensions between the two nations (Attribution-noncommercial et al., n.d.). This desire on China's and India's parts does not necessitate their inclusion in a regional security system, at least not at this stage. The United States and those concerned about the Persian Gulf and the future of China and India, on the other hand, must consider the interests of those two countries. (License et al., n.d.) They're also concerned about the narcotics trade that originates in Afghanistan. Russian concerns that ISAF and NATO will fail in Afghanistan have been maybe the most astonishing of all.

When concern towards the futuristic movements of the Afghan conflict, Private military corporations' presence in Afghanistan exacerbates the situation by posing a threat to possible effective government. To avoid a recurrence of state failure, it would be in the international community's best interests to shift from military to humanitarian policies. (Asia & Connah, 2021) Any peace approach that avoids the use of violence would be beneficial to Afghanistan and its people. Some

argue that, given the instability of state institutions in Afghanistan, US forces should be totally removed, while others argue that doing so would create a vacuum for terrorist organizations to fill.

4. Conceptual Framework

The study stands between the discipline of international relations, while remarking an unsolved questions and suggestions. So, the major areas which has focused would be the,

1) The role internal and external actors

As major players in the world economy, Russia and China committed to aid the newly established Taliban leadership in developing the country. Even as a member of the United Nations, the Taliban are unable to operate independently within the existing geopolitical system, competitive economy, and brain drain, and must instead seek a new path away from violence and the use of force. The internal and external actors, as well as their involvements in Afghanistan, are the focus of this study.

2) The present ruling system and further approaches on upcoming opportunities

Taliban's new e approaches to Afghanistan's future governance. As a military component, they face numerous hurdles in their efforts to improve the country in all aspects. Their future economic, political, and security initiatives will be critical in the global arena. The next goal is to assess their transformation within a legal framework that includes a relevant foreign policy, other policies, and strategies, as well as further recommendations.

5. Research Design & Methodology

This study's qualitative method must be taken into consideration. Journals, publications, magazines, and websites are used to acquire data. The data is gathered from a variety of sources, including: 1) various publications of

foreign governments or international bodies and their subsidiary organizations, ii) various research reports prepared by research scholars, universities, economists, and others in various fields, iii) books by various authors, handbooks, theses, magazines, and newspapers, iv) various sources from university libraries, vi) technical and trade journals, vii) websites, and viii) public records and statistics. Secondary sources will be used to collect the necessary data in order to ensure the study's quality. The vast majority of the information will be obtained in a theoretical and conceptual fashion.

Data interpretation will be based on notions and theories such as legitimacy, sovereignty, and so on. As a result, in regards to the Afghan war, Validation of data obtained from secondary sources will be difficult to do to some extent. The internal and external stakeholders in this conflict will act in an unjustified manner. There will be a shift in the actions of global parties involved in these circumstances in a short period of time. As a result, the study finds it impossible to interpret their precise movements or conclusions. As a result, there will be challenges in anticipating future global movements from the perspective of the scope of vision.

6. Conclusion

As a result of problematic techniques utilized during military involvement, the War on Terror has undoubtedly harmed the moral reputation of the West. The US has paid a high price for attempting to eliminate Bin Laden and other al Qaeda commanders, as well as their Taliban supporters. Unsurprisingly, the West's enthusiasm for military intervention has dwindled as a result of prolonged military operations in Afghanistan and their failure to meet targeted goals. The public in the United States has grown sensitive of some of the atrocities committed during the military

involvement in Afghanistan and has become increasingly opposed to future military action.

As a military operation, the War on Terror has turned into a dangerous dilemma that has extended Western participation in Afghanistan. While hopeful measures promoting the development of democracy are not without risk, the United States and its allies should no longer presume that military force will or can successfully impose a democratic model on states. Afghanistan is still on the verge of being a failed state, and it is undeniably weak. It appears to be unable to enforce state law, to provide basic infrastructure to its population, and to be plagued by political corruption and violence. It also has a dysfunctional court and bureaucracy, as well as other symptoms of governmental failure. The best choice appears to be for Western forces to remain in Afghanistan solely for humanitarian reasons. However, any foreign forces may not be trusted, given the agony endured by the Afghan people.

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Acknowledgement

I would like to express my sincere gratitude towards Mr. HMN Herath, for the cooperation, active guidance and for encouraging me to complete the research project during the period of my work. Also, I would like to thank my Family members & colleagues for their valuable guidance and support on completion of this project. Finally, I would like to offer my heartiest gratitude to all the people whose names are not appeared, but their untiring effort was very much crucial to make this study success throughout this work.

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A Framework to Support Automobile Maintenance Decisions in Militaries Using Analytic Hierarchy Process

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Abstract: The operational availability and reliability of automobiles significantly affect the smooth functioning of a military system. Militaries own massive automobile fleets, comprising automobiles with different capabilities. However, a military organization is unable to attend to all repair/ maintenance needs of its fleet concurrently, thus maintenance needs to be prioritized. Further, it is unobvious that a military organization equip adequate resources to attend all maintenance in-house, as a result, some portion of maintenance is to be outsourced. However, military expectations of outsourcing significantly deviate from a profit-oriented business firm, thus identifying the right maintenance activity to be outsourced is crucial, but challenging.

This paper develops a framework to support automobile maintenance decisions using Analytic Hierarchy Process (AHP). The framework provides an easier and simpler platform for maintenance prioritization and selecting the best maintenance approach i.e insourcing/ outsourcing. In the proposed approach, maintenance prioritization is achieved based on the criticality of automobiles. The criteria required for maintenance prioritization and maintenance approach selection are selected from previous literature. Then, their relative importance is calculated

using AHP. Finally, two scoring models are developed to calculate automobile criticality and to select the maintenance approach. The simplicity of the scoring models makes them more user-friendly and numerical results enable fast, but wise decision-making for maintainers.

Keywords: Automobile maintenance, decision support framework, maintenance prioritization, best maintenance approach, Analytic Hierarchy Process.

1. Introduction

A. Background of the study

Automobiles are widely used in militaries for numerous applications. It would be unthinkable for any military operation to occur without the adequate support of automobiles. Their ability to support troop movements, travel over difficult terrains, and haul tons of supplies makes them invaluable to any military organization. Further, automobile transportation is the most popular mode of transportation used by most militaries in the world, as it is the cheapest way to physically connect scattered military units. Therefore, to cater to numerous transportation needs, militaries maintain massive automobile fleets

irrespective of their specialized medium of operation. The operational readiness of the armed forces is highly dependent on the state of its equipment (Goh & Tay, 1995). Therefore, mere owning a large automobile fleet is not sufficient and it is essential to maintain desired operational availability and reliability of the fleet.

The performance of military ground vehicles rapidly deteriorates due to the high rate of operation and extreme operating environments (Rabeno & Bounds, 2009). Further, they degrade with age and ultimately become non-operational if no maintenance is carried out (Zhang & Liu, 2002). Maintenance affects machinery reliability (Endrenyi et al., 2001). Properly maintained equipment will have higher availability and longer life. On the other hand, poorly maintained equipment fail frequently (Swanson, 2003). Therefore, the desired output of machinery can be experienced only if it is maintained properly. Operating life, operational reliability and failure consequences of the automobile are influenced by the quality of maintenance (James et al., 2017). Accordingly, for consistent maintenance of desired performance of military automobiles, timely maintenance is vital.

The military automobile fleets comprise automobiles belonging to a wide range of categories. These automobiles are built by different manufacturers incorporating different technologies which have made the defects identification and rectification of them very complicated (Chen, 2014). However, due to the importance of the role played by automobiles, the military spends a significant portion of its allocated budget on the maintenance of the automobile fleet. Development of maintenance infrastructure, procurement of spare parts, tools and equipment, training of labour and outsourcing services are key areas that consume allocated

military resources. However, even after all the expenditures and efforts, some military organizations struggle to meet the expected minimum level of performance of automobiles. The deep-rooted cause behind this issue is the adaptation of inappropriate maintenance approaches led by faulty Maintenance decisions.

B. Research Problem

Militaries are equipped with massive automobile fleets and consistent maintenance of its operational availability to the highest degree is crucial. However, maintenance management of a large automobile fleet is challenging and burdensome to maintainers. They should look into numerous aspects such as prioritizing maintenance needs, resource availability, in-house capabilities, possible alternatives if in-house capabilities are not adequate, the impact of such alternatives...etc., before the maintenance decision. Therefore, the availability of a framework to support maintenance decisions simplifies maintenance management in such a complex system.

However, military expectations on maintenance differ from the corporate world and thus, direct application of the decision support approach used in the corporate sector to the military context may lead to destructive repercussions. Therefore, only a decision support framework that finely fits with the military environment contributes to functioning maintenance management system effectively.

C. Research Objective

The objective of this research is three folds; to develop a method to identify maintenance priorities in a large automobile fleet, to identify military expectations on automobile maintenance and finally, to design a decision support framework applicable in the military environments to select the best maintenance

approach for a given repair/ maintenance need.

2. Literature Review

A. Maintenance Prioritization

Prioritization of maintenance operations can be an effective decision support tool for maintenance engineers (Ni and Jin, 2012). It is very seldom that companies have adequate resources, monetary strength or organizational capabilities to work on all possible improvements in a manufacturing system at the same time (Bengtsson, 2011). When there are limited maintenance resources it is imperative to identify critical machinery, which is in real need of maintenance and prioritize them.

B. Classification of automobiles

In a complex machinery system with multiple machines, the focus of maintenance on a single machine is not effective. In such a case, classifying machines into groups will simplify maintenance operations. Machine classification is the basis for any maintenance planning (Rosqvist, Laakso and Reunanen, 2009; Waeyenbergh and Pintelon, 2002). Classification enables managers to focus on the most critical machines and facilitates the decision-making process (Syntetos, Keyes and Babai 2009). According to Stadnicka, Antosz and Ratnayake (2014), when machines are classified into groups, maintenance prioritization decisions can be made considering common characteristics of all machines in the group as a whole, on the other hand, it ease up the decision-making process (Gopalakrishnan and Skoogh, 2018).

Different studies explain the different basis for machinery classification. However, this study selected criticality-based classification approach, as it is the most adaptable in the military environment.

C. Classification based on the criticality

A critical machine is a machine that can make the highest impact for the intended purpose of a machinery system (Petrovic et al., 2008). Therefore, significant attention should be paid to the maintenance of a critical machine over to others (Baglee & Knowles, 2010).

Criticality analysis provides the basis for deciding what assets should be given priority in a maintenance management program (Márquez et al., n.d.). Criticality classification is a common way to group the different machines in a machinery system for a focused maintenance effort (Bengtsson, 2011). Several methods have been discussed in the literature for determining equipment criticality (Masmoudi et al., 2014). Criticality assessment performed using multiple factors is one of the most common ways (Márquez et al., n.d.). Gopalakrishnan and Skoogh (2018) state that assessing criticality through multiple factors, enables finding the critical machine from many different perspectives and grouping them together in terms of maintenance purposes.

D. Criteria for criticality assessment

Masmoudi et al., (2014), have designed a model to determine the maintenance strategy of medical devices based on equipment criticality. In that model, the criticality of medical devices is assessed using five (05) criteria; function, degree of maintenance complexity, level of importance of the mission, risk, and age and 6 sub-criteria; rate of use, availability of alternative devices, frequency of failures occurrences, detectability, and impact on the production of care and impact on safety. However, by comprehensively analyzing the factors used by Masmoudi et al. (2014) for criticality assessment and relevancy of them for automobile criticality in the military context, the followings are selected as the main criteria for criticality assessment of automobiles;

- Degree of complexity of maintenance
- Function
- Utilization
- Availability of alternative devices
- Age

E. Maintenance approaches

Most military organizations in the world own in-house repair facilities to cope with their own machinery maintenance needs. However, it is very seldom that organizations equip with adequate in-house resources or capabilities to work on all maintenance activities at the same time (Bengtsson, 2011). Therefore, the respective military organization is compelled to outsource some part of maintenance needs as a measure to maintain the desired operational state of the machinery fleet.

Maintenance outsourcing is a successful approach widely applied by organizations in both military and corporate world. Outsourcing helps firms to focus and develop their core business activities. Simply, it gives a peace of mind for the firm (Wanigasinghe & Mahakalanda, 2018). However, military expectations on outsourcing differ from private businesses. Military organizations are non-profit-oriented and military commanders are not rewarded with profits and penalized with losses; nor can military units be taken over or made bankrupt (Hartley, 2004). Also, military leaders cannot wash their hands merely by delegating responsibility to an outside firm. Therefore, in the military environment, the maintenance approach i.e. insourcing/ outsourcing, is to be chosen very carefully and it should meet the organizational expectations of the respective military unit.

F. Automobile maintenance

Automobile maintenance falls under the service industry, where reliability and assurance of quality are essential for earning customers' goodwill for the maintenance

service providers (James et al., 2017). The user is satisfied only when what the user expected from the repairer with respect to repair/ maintenance of his/ her automobile is fulfilled by the service received. Performance of repairer attributes to performance of maintenance (James et al., 2020), thus, it is super important to choose the right firm for maintenance. In most cases, the choice of repairer is governed by the preference of the decision makers (Ahmadi et al., 2010). The maintenance approach which satisfies user expectations the most could be considered the best approach corresponding to the organization.

Accordingly, service characteristics which lead to user satisfaction can be regarded as maintenance expectations of users in the field of automobile maintenance. In this study, we propose a novel mechanism to select the best maintenance approach for automobile maintenance based on user expectations in a local military context. During that both insource and outsource approaches were tested separately to ascertain their succession of meeting user expectations.

G. User expectations on automobile maintenance

Previous literature has discussed various factors relevant to user satisfaction and customer retention at automobile workshops. Our proposed method considers the following five (05) criteria as the user expectations of automobile maintenance for evaluating the best automobile maintenance service provider, thereby the best maintenance approach out of insourcing and outsourcing;

- Time taken for the maintenance
- Cost
- Warranty
- Quality of maintenance
- Reliability of service provider

3. Methodology

This research is conducted following the overall methodology shown in Figure 1, which shows the sequence of activities that are used to achieve the set objectives. The secondary information required for the study is gathered through a literature survey, expert opinion and questionnaire survey. Information gathered through the literature survey is presented to a panel of field experts to test its validity in the local military context. The researcher decided to use a quantitative approach under the survey strategy and survey data is analyzed with Analytic Hierarchy Process (AHP) using Expert Choice™ software. During this study, the secondary data is used to calculate the relative weights of selected criteria using Analytic Hierarchy Process (AHP)

To our knowledge, no decision support procedure is explained in literature for maintenance management of large automobile fleets, especially for militaries. Therefore, the researcher develops the hierarchical decision support procedure illustrated in figure 2, with a deep understanding of essential elements to be included, which ultimately enables to select the best maintenance approach in three simple steps;

Step 1: Calculate the criticality and thereby identify the criticality class an automobile belongs.

Step 2: Determine the need for outsourcing based on the non-availability of in-house capabilities.

Step 3: Determine whether to insource or outsource based on the extent each approach fulfils organizational expectations

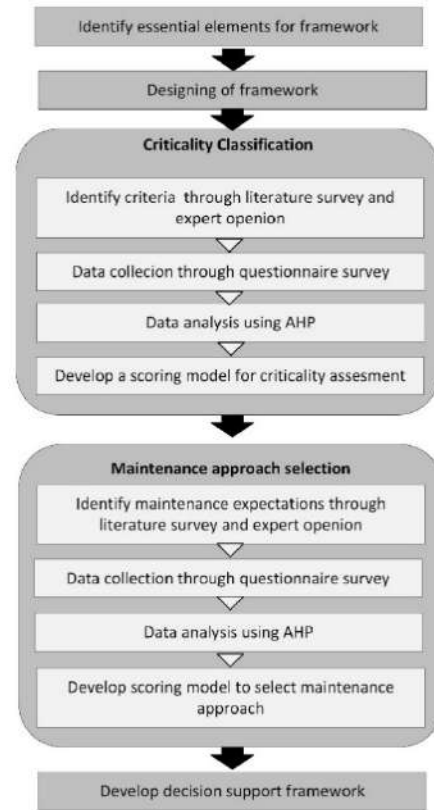


Figure 1. Research design

Source: Developed by authors

The procedure for formulating the proposed decision support model is explained in detail below;

A. Calculate automobile criticality

The availability of a simpler method to calculate automobile criticality is very helpful in maintenance prioritization, especially when there are thousands of automobiles in the fleet. It supports identifying critical automobiles easier and faster. Therefore, the objective of this section is to develop a novel, but user-friendly approach to calculating automobile criticality. In that case, we propose a simple

formula to calculate an automobile's criticality and then develop a scoring model that enables us to calculate the criticality of an automobile easily;

$$\text{Criticality } (C) = \sum_{i=A}^n (W_i S_i) \quad (1)$$

Where,

W_i – Relative weight of i^{th} criticality criterion

S_i – Automobile's score with respect to i^{th} criticality criterion

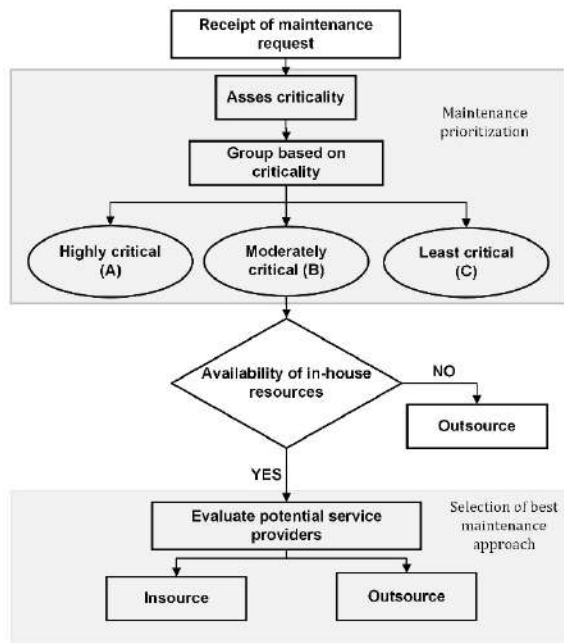


Figure 2. Proposed decision support model

Source: Developed by authors

B. Analytic Hierarchy Process (AHP) to calculate the relative weights of criteria

Criticality assessment and maintenance approach selection involve multi-criteria. There are several techniques to solve multi-criteria decision-making problems and among them Analytic Hierarchy Process (AHP) is a widely used and well-tested method (Perera & Costa, 2008). AHP is a Multi-Criterion Decision Making (MCDM) method

which breaks down the question into smaller constituent parts. It is a computational technique for decision-making and involves in the ranking of decision elements and then making comparisons among pairs of clusters (Saaty, 1990). It is a widely used method for solving choice and ranking problems (Ishizaka et al., 2012). In AHP, relative weights of possible decision alternatives or outcomes are given a functional value based on a mathematical representation of pairwise comparisons. (Taghipour et al., 2011) employed AHP to determine criteria and sub-criteria weighting values during the criticality assessment of medical equipment.

Most of the current quantitative techniques use the weighted scoring method as a systematic way to calculate asset criticality (Duffuaa, Raouf and Campbell, 2000). During our proposed model, we use AHP to find relative weights of criteria used for criticality assessment and maintenance approach selection. Accordingly, the AHP models illustrated in Figure 3 and Figure 4 is formulated for automobile criticality assessment and maintenance approach selection respectively.

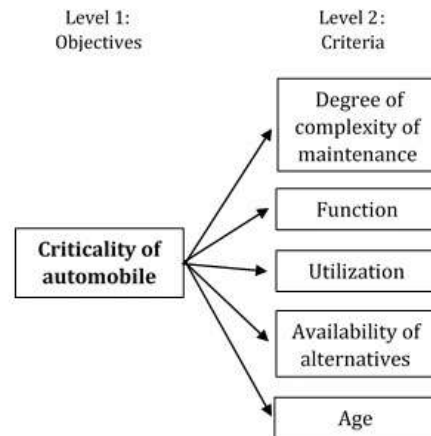


Figure 3. AHP model for the criticality assessment

Source: Developed by authors

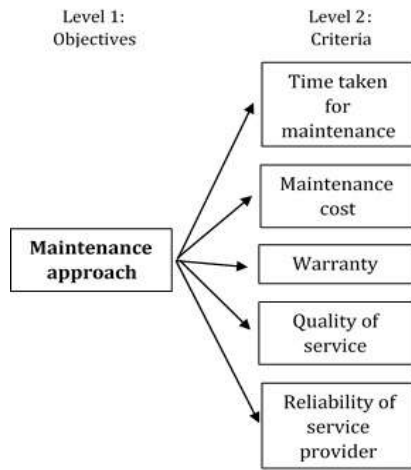


Figure 4. AHP model for selecting best maintenance approach

Source: Developed by authors

C. Formulating a scoring model to criticality assessment

Criteria used for the criticality assessment are layered considering their behavior in the military context. Then a unit score for each level is assigned based on its degree of impact in the following manner;

1). *Degree of complexity of maintenance (A):* Masmodi et al. (2014) have proposed three levels under this criterion to calculate the criticality of medical devices. In our model, we propose five levels matching automobile maintenance with assigned scores from 1 to 5 according to its degree of impact as tabulated in table 1;

Table 1: The proposed levels and assigned unit scores of the criterion "Degree of complexity of maintenance"

Level	Score
Highly complicated maintenance, OEM involvement is essential	5
Complicated maintenance; requires expert skills and specially designed tools/ infrastructure	4

Moderately complicated maintenance; requires expert skills but can be managed with ordinary tools	3
Ordinary maintenance; can be managed with ordinary skills and tools	2
Very basic level maintenance; no workshop assistance is required	1

Source: Developed by authors

2). *Function (B):* The function is the specific purpose particular automobile is used. In the proposed model, five (5) levels for this criterion are assigned based on the range of applications and unit scores are assigned from 1 to 5 based on its degree of impact as tabulated in table 2;

Table 2: The proposed levels and assigned unit scores of criterion "Function"

Level	Score
Emergency vehicles	5
VVIP/ VIP transportation	4
Combat vehicles	3
Logistics transportation	2
Troops transportation	1

Source: Developed by authors

3). *Utilization (C):* The utilization indicated the numerical representation of the usage of the particular automobile. The average monthly mileage of an automobile is considered as the utilization of a particular automobile in this model. Accordingly, unit scores for each level are assigned based on the intensity of usage in a month (X km/month) as illustrated in table 3;

Table 3: The proposed levels and assigned unit scores of criterion “Utilization”

Level	Score
$6000 < X$	5
$4500 < X \leq 6000$	4
$3000 < X \leq 4500$	3
$1500 < X \leq 3000$	2
$X \leq 1500$	1

Source: Developed by authors

4). *Availability of Alternative Devices (D)*: Five levels are introduced with respect to the criterion “Availability of alternative devices” considering the possibility to find an alternative to perform the desired function. Then, unit scores are assigned to each level based on the ease of finding an alternative as illustrated in table 4:

5). *Age*: It indicates the actual age (Y) of the automobile. For this criterion, five levels were

Table 4: The proposed levels and assigned unit scores of criterion “Age”

Level	Score
$20 \text{ years} < Y$	5
$15 \text{ years} < Y \leq 20 \text{ years}$	4
$10 \text{ years} < Y \leq 15 \text{ years}$	3
$5 \text{ years} < Y \leq 10 \text{ years}$	2
$Y \leq 5 \text{ years}$	1

Source: Developed by authors

The layout of the scoring model developed in our study is illustrated in Figure 5, and it is designed using basic computational features of Microsoft Excel software. More importantly, this model can be put into practice with diminutive training for the operator due to its simplicity. The model indicates the criticality value of the respective automobile in the “criticality value” column when the unit scores are fed by the operator in respective raw specific to the maintenance need. In that, the

proposed as shown in table 5.

Table 5: The proposed levels and assigned unit scores of criterion “Availability of Alternative Devices”

Level	Score
No alternatives available for the desired function	5
It is very hard to find alternative. Further, selected alternative may disturbs an another function in the system	4
An alternative can be found with difficulties and it perform the desired purpose	3
Alternatives available and purpose can be managed	2
Ample of alternatives available and it is very easy to select one	1

Source: Developed by authors

criticality is calculated using formula 1. More importantly, the criticality of any number of automobiles can be generated very easily with our simpler model.

The criticality value calculated using the proposed model is case-oriented. In other words, the criticality value of an automobile differs from case to case based on its association with criteria at the time of assessment. Therefore, this enables maintainers to get the contextual criticality of an automobile and thereby classify them in order to prioritize maintenance. Figure 5: scoring model to calculate automobile criticality. Figure 5: Scoring model to calculate automobile criticality.

D. Formulating a scoring model to evaluate service providers.

The objective of this section is to develop a novel method to select the best maintenance

approach for a specific repair/ maintenance need. We propose a mechanism to evaluate potential service providers based on their ability to meet user expectations. In the proposed method, the in-house repair facility is also considered a separate repair entity and it is evaluated against potential outside service providers.

The availability of a numerical comparison method enables faster identification of the best

potential service provider, therefore it is more efficient rather to other methods. Accordingly, we develop a scoring model to evaluate service providers that produce a score for each potential repairer based on their ability to meet organizational expectations with respect to particular repair/ maintenance. The following simple formula is used to calculate the individual score of potential repairers;

SCORING MODEL 01: TO CALCULATE CRITICALITY OF AUTOMOBILE							
Criteria		Degree of complexity of maintenance	Function	Utilization	Availability of alternatives	Age	Criticality value
Weight		W_A	W_B	W_C	W_D	W_E	
Unit score	5.0	OEM assistance required	Emergency vehicle	$6000 < X$	No alternative available	$20 < Y$	
	4.0	Expert skills & special tools required	VIP transportation	$4500 < X \leq 6000$	Very hard to find and disturbs another function	$15 < Y \leq 20$	
	3.0	Expert skills required	Combat vehicle	$3000 < X \leq 4500$	Can be managed with difficulties	$10 < Y \leq 15$	
	2.0	Managable with ordinary tools/ skills	Logistics transportation	$1500 < X \leq 3000$	Alternative available	$5 < Y \leq 10$	
	1.0	Very basic level maintenance	Troop transportation	$1500 \leq X$	Ample of alternatives available	$Y \leq 5$	
Vehicle No.							

Figure 5. The layout of scoring model to calculate automobile criticality
Source: Developed by authors

$$\text{Score (x)} = W_w Y_x + W_q Q_x - W_t T_x - W_c C_x \quad (2)$$

Where;

W_w = Relative weight for Warranty
 W_q = Relative weight for Quality of service
 W_t = Relative weight for Time taken for maintenance
 W_c = Relative weight for Maintenance cost

Y_x = Firm x's score for warranty
 Q_x = Firm x's score for quality of service
 T_x = Firm x's score for maintenance time
 C_x = Firm x's score for maintenance cost

Maintenance expectations used in formula 2 are having a different scale of measurement. Therefore, to scale them, we use normalized data and the Min-Max normalization technique indicated in formula 3, is used for

normalization. Min-Max normalization technique provides linear transformation on original data within a given range. (Saranya & Manikandan, 2013).

$$V' = \left(\frac{V - \min(A)}{\max(A) - \min(A)} \right) \times (\text{new max}(A) - \text{new min}(A)) + \text{new min}(A) \quad (3)$$

Where;

V' – New value in required range (normalized value)

V – Value to be normalized

$\min(A), \max(A)$ – Minimum and maximum value of the original range of attribute

$\text{new min}(A), \text{new max}(A)$ – Minimum and maximum value of the new range of attribute

A – Attribute

Figure 6, illustrates the layout of the developed model. It is designed using Microsoft Excel software and it generates the

score of each service provider by formula 2. The “Total Score” indicates how far each service provider meets user expectations with respect to a given maintenance need. With that result, the decision maker can come to a technical conclusion about whether to insource or outsource. For example, if the in-house repair facility scores the highest, the most appropriate approach would be insourcing, and outsourcing is the best when any outside service provider scores the highest. However, if the decision is to outsource, our model does not recommend selecting the service provider with the highest score as the best service provider for outsourcing as numerous other aspects pertinent to local organization need to be considered when selecting a service provider as explained in the literature

4. Case Implementation

The above framework was implemented in Sri Lanka Navy (SLN) which is equipped with a massive automobile fleet consisting of 4000 + automobiles. SLN comprises approx. 1000 technical workforce specialized in various subfields of automobile maintenance and repairs are undertaken at seven repair yards located at seven geographical locations.

SLN operates with an ageing automobile fleet and the majority of automobiles in the fleet are aged beyond 10 years. However, SLN pays

SCORING MODEL 02 : TO SELECT MAINTENANCE STRATEGY						
Criticality class :						
Automobile No. :				Job No.		
Service Provider	Maintenance Expectations					Total score
	Maintenance Duration	Maintenance cost	Warranty	Quality of Maintenance	Reliability of Service Provider	
	(Relative weight)	(Relative weight)	(Relative weight)	(Relative weight)	(Relative weight)	
SLN						
X						
Y						
Z						

Figure 6. Scoring model to evaluate service providers Source: Developed by authors

significant attention to the consistent maintaining of operational availability of its automobile at the highest possible level, as automobile transportation is the cheapest, but

Automobiles are extensively used in SLN to cater to various transportation needs of scattered navel units. The extensive utilization and age cause the higher failure frequency of automobiles in the SLN fleet.

As a result, the repair yard receives about 20-30 maintenance requests daily as on average that exhausts available in-house maintenance capabilities. Presently there is no systematic mechanism with SLN to prioritize these maintenance requests.

Outsourcing is a key maintenance approach adopted by SLN for decades and a considerable number of maintenance activities are outsourced every year. However, these outsourcing decisions are mostly driven by the decision maker's discretion not backed by any scientific analysis. It can be the identifiable main deep-rooted cause of SLN's failure to maintain the required marginal level of operational availability of its automobile fleet

A. Application of the developed model

The validity of selected criteria for both criticality assessment and maintenance approach selection in the SLN context is tested by presenting them to a panel of experts. Thereafter, relative weights of criticality criteria are calculated through Expert Choice™ software by feeding secondary data acquired through the AHP questionnaire survey. Table 6 indicates the relative importance of criticality criteria valid in the SLN context.

Table 6: Relative importance of criticality criteria

the fastest available mode of transportation for SLN needs. Accordingly, SLN annually spends a huge portion of its allocated budget for the maintenance of its large automobile fleet.

Criteria	Relative importance
Degree of complexity of maintenance	4.0 %
Function	7.0%
Utilization	26.0%
Availability of alternatives	55.5%
Age	7.5%

Inconsistency = 0.00249

Source: Developed by authors

Thereafter, three (03) criticality classes are defined to group automobiles upon the consultation of the SLN expert panel as indicated in table 7. In that, the expert panel opined that formulating three groups with an equal range would be more suitable for the SLN context considering the fleet size and the administrative and managerial ease.

Table 7: Defin ed criticality classes

Group	Criticality range
Least critical	$C < 2.3$
Moderately critical	$2.3 \leq C < 3.6$
Highly critical	$C \geq 3.6$

Source: Developed by authors

The relative importance of maintenance expectations are context-oriented and it varies with the criticality of automobiles. Therefore, we calculated the relative importance of maintenance expectations under each criticality class following the same procedure explained during criticality calculation. The derived results pertinent to the highly critical class, moderately critical class and least critical class are tabulated in Tables 8, 9 and 10 respectively.

SCORING MODEL 01: TO CALCULATE CRITICALITY OF AUTOMOBILE							
		Degree of complexity of maintenance (0.039)	Function (0.070)	Utilization (0.260)	Availability of alternatives (0.555)	Age (0.075)	Criticality value
Unit score	5.0	OEM assistance required	Emergency vehicle	$6000 < X$	No alternative available	$20 < Y$	
	4.0	Expert skills & special tools required	VIP transportation	$4500 < X \leq 6000$	Very hard to find and disturbs another function	$15 < Y \leq 20$	
	3.0	Expert skills required	Combat vehicle	$3000 < X \leq 4500$	Can be managed with difficulties	$10 < Y \leq 15$	
	2.0	Manageable with ordinary tools/ skills	Logistics transportation	$1500 < X \leq 3000$	Alternative available	$5 < Y \leq 10$	
	1.0	Very basic level maintenance	Troop transportation	$1500 \leq X$	Ample of alternatives available	$Y \leq 5$	
Vehicle No.	NAHA 53xx	4	5	1	3	2	2.6

Figure 7. Criticality assessment of vehicle number. 53xx (Source: Developed by authors)

Table 8: Relative importance of maintenance expectations pertaining to highly critical class.

Criteria	Relative importance
Time taken in maintenance	33.1 %
Maintenance cost	6.8%
Warranty	9.7%
Quality of maintenance	22.4%
Reliability of service provider	28.1%

Inconsistency = 0.00053

Source: Developed by authors

Table 9: Relative importance of maintenance expectations pertaining to moderately critical class.

Criteria	Relative importance
Time taken in maintenance	9.8 %
Maintenance cost	10.4%
Warranty	11.5%
Quality of maintenance	37.8%
Reliability of service provider	30.5%

Inconsistency = 0.00131

Source: Developed by researcher

Table 10: Relative importance of maintenance expectations pertaining to least critical class.

Criteria	Relative importance
Time taken in maintenance	5.8 %
Maintenance cost	35.3%
Warranty	14.0%
Quality of maintenance	22.7%
Reliability of service provider	22.7%

Inconsistency = 0.00381

Source: Developed by authors

The developed framework is applied for a few randomly selected automobile maintenance jobs and one is explained below to demonstrate the operating procedure of the proposed model;

Example

Vehicle Number 53xx Ambulance visited the naval automobile repair yard due to an abnormal noise generated from its engine.

Step I: Calculate criticality and identify criticality class.

As Figure 7 illustrates, the calculated criticality of the vehicle is 2.6. According to the group margins defined above, this vehicle belongs to the “moderately critical” class.

Step II: Check the availability of in-house resources to undertake repairs

The facility audit carried out by the maintenance supervisor revealed that in-house resources are adequate to undertake particular engine repairs.

Step III: Selection of maintenance approach.

As this automobile belongs to the “moderately critical” group the scoring model developed with relative weights derived in Table 9 is used to evaluate service providers. Accordingly, the score of potential service providers is calculated as shown in Figure 8 and found that

the SLN repair yard (in-house facility) has scored the highest. The finding leads to a technical conclusion that insourcing is the best maintenance approach for this particular repair/ maintenance need. More importantly, the developed model was applied for few more automobile maintenance jobs in SLN, results validated its accuracy.

5. Discussion

Maintenance prioritization through criticality classification is a successful approach for effective maintenance management of a large automobile fleet. In that case, Maintenance complexity, Function, Utilization, Alternatives availability and age are valid criteria for the criticality assessment of automobiles in the military context. Further, the availability of a scoring model simplifies the maintenance prioritization process and its ability to generate results in numerical format enable easy, but fast identification of priorities.

SCORING MODEL 02: TO SELECT MAINTENANCE STRATEGY						
Class : Moderately critical Automobiles						
Automobile No. : NAHA 53xx				Job No. M/01		
Service Provider	Maintenance Expectations					Total score
	Maintenance Duration	Maintenance cost	Warranty	Quality of Maintenance	Reliability of Service Provider	
	0.098	0.104	0.115	0.378	0.305	
SLN	1.00	0.10	1.00	0.1	1.00	1.00
Autoshine (Pvt) Ltd	0.10	0.86	0.10	0.55	0.55	0.24
Malima Enterprises (Pvt) Ltd	0.55	0.86	0.10	1	1.00	0.69
Wimal Motors	0.33	1.00	0.10	0.25	0.10	-0.88

Figure 8. Service provider evaluation for vehicle number 53xx

Source: Developed by authors

Maintenance expectations-based service provider evaluation is a novel, but successful approach. It enables an organization to select

the best maintenance approach for a specific maintenance need meeting organizational expectations. Further, the findings of the study

revealed that the organizational expectations on automobile maintenance change with the order of automobile criticality.

More importantly, the developed model can be used for any armed force for effective maintenance management of large machinery fleets with minor adjustments to fit with the respective organization.

6. Conclusion

Maintaining a large automobile fleet is a very costly event, nevertheless, militaries maintain massive automobile fleets to cater to countless transport needs. On the other hand, maintaining of the operational state of automobiles and reliability at a satisfactory level is vital as it directly affects the operational readiness of a military unit. It is maintainers' responsibility to maintain the operational state of the fleet at desired level, which is burdensome. Maintainers are required to identify maintenance priorities and adapt appropriate maintenance approach. Failure in doing so, result in waste of limited resources and lack in operational availability and reliability of the automobile fleet. It is realized that a properly designed framework which supports maintainers on maintenance decisions of maintenance prioritization and select appropriate strategy ease up maintenance decision making.

In this study, we have presented a decision support model to identify maintenance priority and best maintenance approach for automobiles. A novel approach was designed to identify maintenance priority based automobile criticality and criticality is calculated by a scoring model developed using five (05) criticality criteria and relative importance of them calculated using AHP.

Further, our framework is capable in assisting to select the best maintenance approach for automobiles. The maintenance approach is

selected based on user's expectations on maintenance and result is generated in numerical form by a scoring model. Five (05) user expectations are taken as criteria and their relative importance is calculated using AHP. The simplicity of the developed model makes it more user-friendly and generate fast results. Further, this model is tested in Sri Lanka Navy and assured its accuracy.

Acknowledgement

We would like to express our deepest gratitude to the academic staff of the Department of Management of Technology, the University of Moratuwa for the wealth of knowledge and understanding delivered to us during the Master of Business Administration Program in Management of Technology. Also, we would like to thank the Commander of the Navy and the Director General Engineering for sparing me and giving me the opportunity to conduct this research. I would also like to thank all transport administrators, automobile engineers and technicians of the Sri Lanka Navy who were the respondents to my questionnaires and especially the senior engineers for participating on the expert panel. Finally, we thank to our family members who spared us with time in successful completion of this research despite of many other commitments.

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Creative Tourism as a Strategy for Strengthening Creative Economy in Sri Lanka

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Abstract: Sri Lanka facing dual problems of weak creative economy performance on one hand and non-adoption of creative tourism on the other provide background to the study and the introduction of 'creative tourism' is considered a strategy for addressing both problems simultaneously. Despite worldwide adoption of creative tourism, little research has explicitly examined destination level creative tourism strategy development and ready to use framework to provide guidance and direction to countries does not exist to date. Thus, the objective of this research was to identify the components of creative tourism strategy. A three staged study comprises of both quantitative and qualitative methodology was adopted. A multi-journal review was conducted in stage 1 to identify the creative tourism strategy components used by previous studies. In stage 2 using normative Delphi technique creative tourism strategy components appropriate for Sri Lanka were identified and the findings were validated in stage 3 using a survey. The data was analysed using content analysis in stage 1 and 2 and descriptive and inferential statistical analyses were used in stage 3. The study found 22 creative tourism strategy components that fits well with both typical stages of strategy development and Porter's Diamond model. The study provides a unique contribution to existing knowledge as it is underpinned by hybrid lenses of strategic management and marketing theory that seems rear in creative tourism research. The need for

collaborative partnerships between various stakeholders led by the government is considered the main implication to practitioners to ensure successful introduction of creative tourism to Sri Lanka.

Keywords: Creative & cultural industries, Creative economy, Creative tourism, Creative tourism strategy

1. Introduction

With the emergence of creativity as a driving force in the 21st century the word creativity was used in many spheres including creative economy, creative industries, and creative tourism. Despite the opportunity afforded by creative economy for exporting of creative goods & services creative economy performance of Sri Lanka remains weak. Likewise, despite both growing demand for creative tourism and having an abundance of creative & cultural resources in the country Sri Lanka has not embraced creative tourism wholeheartedly. In resolving the dual issues faced by the country creative tourism was proposed as a strategy as previous studies confirm the contribution of creative tourism towards all four aspects of creative economy namely; economic, cultural, social, and sustainable development. Though individual components of creative tourism strategy appear in previous studies in an ad hoc manner a suitable framework for developing creative tourism strategy is yet to emerge. Therefore,

with the intension of identifying the components of destination- level creative tourism strategy for Sri Lanka this study was initiated.

2. Methodology

This study used a three-staged process. Stage 1 was to identify the creative tourism strategy components used by previous studies using a systemic multi-journal review (Siddaway et al. 2019) using 30 journal articles. Stage 2 used normative Delphi Technique to discover creative tourism strategy components appropriate for Sri Lanka using 15 multi-disciplinary Experts and 30 Key Informants from both cultural centers in the country and creative & cultural industries. Purposive sampling (judgment sampling) was used for selecting Experts, entire population was considered for cultural centers as studying all 21 districts was manageable and convenience sampling was used for choosing Key informants from creative & cultural industries. Third and final stage was based on a survey using a structured questionnaire. The questionnaire was developed based on the findings in stage 2 consists of 31 questions in total falling in to 4 stages of the strategy development process (independent variables) namely; Strategic analysis comprises of 6 questions, Strategic direction comprises of 5 questions, Strategy formulation comprises of 8 questions, Strategy execution & evaluation comprises of 7 questions and creative tourism strategy (dependent variable) comprises of 5 questions. Disproportionate stratified random sampling was used as all stakeholder categories in the tourism industry cannot be considered equally important in terms of practicing creative tourism and the sample size was 384 based on Krejcie and Morgan, (1970) and Saunders, (2019). For the purpose of data analysis, while content analysis was used in stage 1, Grounded theory as a methodology (Bryant and Charmaz, 2007; Charmaz, 2011;

Corbin and Strauss, 2008; Walsh et al. 2015a) was used in stage 2 and survey results in stage 3 were analyzed using the Software Statistical package used for Social Sciences (SPSS) 22.0 version and Hypotheses testing was done using Pearson's Correlation Coefficient (ρ), linear regression analysis and multiple regression analysis.

3. Results

A. Findings Stage 1

While a handful of studies (Ottenbacher and Harrington, 2013; Stipanović and Rudan, 2014; Lee et al. 2016; Dias-Sardinha et al. 2019) report creative tourism strategy components holistically the other studies adopt an ad hoc approach. A total of 10 strategy components of creative tourism were identified through previous studies comprised of 8 individual components, Marketing strategy (with 6 sub components) and Role of government (with 5 sub components) as summarized in Tables 1, 2, and 3 below respectively.

Table 1. Creative Tourism Strategy components – Individual

Strategy component	Author
Environmental scanning	Crouch and Ritchie, (1999); Dwyer and Kim, (2003); Ottenbacher and Harrington, (2013)
Tourism resources (factor conditions)	Litvinova, (2011); Stipanović and Rudan, (2014); Wattanacharoensil and Schuckert, (2014); Richards, (2015); Lee et al. (2016); Dimeska, (2017); Thai Government Public Relations Department, 2011 cited in Jenasuma and Sawant, (2018); Jenasuma and Sawant, (2018); Dias-Sardinha et al. (2019)
Capabilities	Landry, (2000); Heath, 2002 cited in Goffi, (2013); Dwyer and Kim, (2003); Dimeska, (2017); Roostika, (2019)

Vision	Crouch and Ritchie, (1999); Landry, (2000); Heath, (2002); Bertramini, 2002 cited in Wattanacharoensil and Schuckert, (2014); Stipanović and Rudan, (2014); Chugh, (2018)
Sustainability	Hassan, (2000); Heath, (2002); Ottenbacher and Harrington, (2013); Stipanović and Rudan, (2014)
Innovation	Heath, (2002); Stipanović and Rudan, (2014); Wattanacharoensil and Schuckert, (2014); Booyens and Rogerson, (2015); Lee et al. (2016); Della Lucia and Segre, (2017)
Partnerships	Enright and Newton, (2004); Landry, (2000); Saban Uyar, (2012); Ottenbacher and Harrington, (2013); Wattanacharoensila and Schuckertb, (2014); Richards, (2015); Lee et al. (2016); Dimeska, (2017)
Structure	Lee et al. (2016); Dimeska, (2017); Wattanacharoensil and Schuckert, (2014)

Source: Author developed

Table 2. Creative tourism strategy components – Marketing strategy

Strategy component	Author
Target market	Hassan (2000); Heath, (2002); Dwyer and Kim, (2003); Enright and Newton, (2004); Omerzel Gomerzelj and Mihalič (2008); Stipanović and Rudan, (2014); Lee et al. (2016) ; Jenasuma and Sawant, (2018)
Positioning	Ritchie and Crouch, (1999); Heath, (2002); Ottenbacher and Harrington, (2011); Stipanović and Rudan, (2014); Wattanacharoensila and Schuckert, (2014)

Creative tourism product mix	Ohridska-Olson and Ivanov, (2010); Ottenbacher and Harrington, (2011); Gordin and Matetskaya, (2012); Jelinčić and Žuvel, (2013); Kostopoulou, (2013); Stipanović, and Rudan, (2014); Wattanacharoensila and Schuckertb, (2014); Booyens and Rogerson, (2015); Nácher and ToMÁS, (2015); Lee et al. (2016); Carvalho et al. (2016); Dimeska, (2017); Jenasama and Sawant (2018); Chugh, (2018); Ramos, et al. (2018); Bakas et al. (2019); Macfarland et al. (2019); Dias-Sardinha and Gomes, (2019)
Place branding	Crouch and Ritchie, (1999); Dwyer and Kim, (2003); Heath, (2002); Landry, (2000); Ottenbacher and Harrington, (2013); Wattanacharoensila and Schuckertb, (2014); Stipanović and Rudan, (2014); Lee et al. (2016); Jenasuma and Sawant, (2018)
Packaging (bundling)	Gordin and Matetskaya, (2012); Ottenbacher and Harrington, (2013); Stipanović and Rudan, (2014); Booyens and Rogerson, (2015); Lee et al. (2016); Dimeska, (2017); Dias-Sardinha et al. (2019); Macfarland et al. (2019).
Performance measurement	Crouch and Ritchie, (1999); Dwyer and Kim, (2003); Heath, (2002); Sano, (2016); Ottenbacher and Harrington, (2013); Wattanacharoensil and Schuckert, (2014)

Source: Author developed

Table 3. Creative tourism strategy components – Role of government

Strategy component	Author
Leadership	Landry, (2000); Heath, (2002); Rogerson, (2006); Ottenbacher and Harrington, (2013); Tan et al. 2013 cited in Wattanacharoensil and Schuckert, (2014); Wattanacharoensil and Schuckert, (2014); Stipanović and Rudan, (2014); OECD, 2014 cited in Radović and Piper, (2016); Lee et al. (2016); Jenasuma and Sawant, (2018); Bakas et al. (2019).
Funding	Ritchie and Crouch, (1999); Landry, (2000); Heath, (2002); Wattanacharoensila and Schuckertb, (2014); Stipanović and Rudan, (2014); Lee et al. (2016).
Stakeholder collaboration	Hassan, (2000); Heath, (2002); Enright and Newton, (2004); Stipanović and Rudan, (2014); Wattanacharoensila and Schuckert, (2014); Lee et al. (2016); Jenasuma and Sawant, (2018); Chugh, (2018)
Policy	Hassan, (2000); Heath, (2002); Dwyer and Kim, (2003); Enright and Newton, (2004); Wattanacharoensila and Schuckert, (2014); Stipanović and Rudan, (2014); Lee et al. (2016); Jenasuma and Sawant, (2018)
Intellectual property (IP) law	Wattanacharoensila and Schuckert, (2014)

Source: Author developed

B. Findings Stage 2

A total of 4 creative tourism strategy components appropriate for Sri Lanka were suggested by the Experts comprised of 18 sub components namely; 5 sub components of Strategy, 7 sub components of Marketing strategy, 5 sub components of Role of government and 1 Challenge in creative

tourism development as summarised in Table 4 below;

Table 4. Creative tourism strategy components for Sri Lanka

Strategy
Tourism resources (<i>factor conditions</i>) & Capabilities
Vision
Sustainability
Backing of related and support industries
Innovation
Marketing strategy
Target market (<i>demand conditions</i>)
Positioning
Creative tourism product
Place branding
Packaging (bundling)
Environmental scanning (PESTEL)
Measurement of creative tourism performance
Role of government
Policy
Leadership & Structure
Funding
Stakeholder collaboration & communication
Intellectual property (IP) law
Challenges in creative tourism development
Impact of COVID 19

Source: Author developed

C. Findings Stage 3

The creative tourism strategy components identified in Table 4 were further expanded based on the findings to be tested using a survey in stage 3. Altogether 31 strategy components categorized under four stages of strategy development (Wheelan and Hunger, 2002; Harrison and Enz, 2005) representing the independent variables namely: Strategic Analysis (SA) with 6 indicators, Strategic direction (SD) with 5 indicators, Strategy formulation (SF) with 8 indicators and Strategy Execution & Evaluation (SE) with 7 indicators and the dependent variable Creative Tourism Strategy (CS) with 5 indicators were

considered. Four hypotheses developed based on 4 stages of strategy development were tested in stage 3 and the outcome is cited in Table 5.

Table 5: Results of hypotheses testing

Independent variable	Code	Pearson's Correlation Coefficient	Rank
Strategic Analysis	SA	0.700	3
Strategic Direction	SD	0.725	2
Strategy Formulation	SF	0.688	4
Strategy Execution & Evaluation	SE	0.794	1

Source: Author developed

In addition, relationship between sub components of each stage and the dependent variable Creative Tourism Strategy (CS) were tested and the outcome is cited in Tables 6 to 9 below;

Table 6 : Relationship between sub components of SA and dependent variable (CS)

	Code	Mean value	Pearson's Correlation value
PESTEL	SA1	4.15	0.606
Endowed resources	SA3	3.73	0.389
Created resources	SA4	4.07	0.634
Other resources	SA5	4.00	0.631
Capabilities	SA6	4.15	0.634

Source: Statistical output

Table 7: Relationship between sub components of SD and dependent variable (CS)

	Code	Mean value	Pearson's Correlation value
Vision	SD1	4.33	0.710
Uniqueness based vision	SD2	4.02	0.612
Authenticity based vision	SD3	4.05	0.533
Sustainability integration	SD4	4.22	0.629

Source: Statistical output

Table 8: Relationship between sub components of SF and dependent variable (CS)

	Code	Mean value	Pearson's Correlation value
Target market	SF1	4.15	0.624
Authenticity based positioning	SF2	3.85	0.522
Culture and heritage based positioning	SF3	3.72	0.455
Compactness based positioning	SF4	3.50	0.363
Creative experiences	SF5	3.97	0.611
Creative events	SF6	4.00	0.609
Packaging	SF7	4.02	0.555
Place branding	SF8	3.96	0.571

Source: Statistical output

Table 9: Relationship between sub components of SE and dependent variable (CS)

	Code	Mean value	Pearson's Correlation value
Leadership	SE1	3.94	0.681
Funding	SE2	3.75	0.654
Partnership with creative industries	SE3	4.03	0.754
Stakeholder collaboration	SE4	3.69	0.659
Policy	SE5	4.03	0.732
Intellectual property law	SE6	3.84	0.629
Measurement of creative tourism performance	SE7	3.96	0.752

Source: Statistical output

In addition, the findings with regard to indicators of dependent variable CS is cited in Table 10.

Table 10: Summary of mean values - Creative tourism strategy (CS)

	Code	Mean value
Demand for creative products & services	CS1	4.02
Employment opportunities	CS2	4.15
SME entrepreneurship opportunities	CS3	4.09
Cultural value of identity	CS4	4.06
Preservation of creative & cultural assets	CS5	4.01

Source: Statistical output

4. Discussion

The purpose of this research was to identify the components of destination-level creative tourism strategy for Sri Lanka using a three-staged study. The creative tourism strategy (CS) components identified in all three stages

are illustrated in Table 11. Despite the differences in designating the components, shifting categories, and merging of two components namely; tourism resources and capabilities and leadership and structure in stages 2 and 3 respectively, the creative tourism strategy components remain same or similar in all 3 stages.

Table 11: Comparison of creative tourism strategy components stages 1 to 3

Creative tourism strategy components	Stage 1	Stage 2	Stage 3
Tourism resources (factor conditions)	√	√	√
Capabilities	√		
Vision	√	√	√
Sustainability	√	√	√
Innovation	√	√	-
Related and support industries (Partnerships)	√	√	√
Target market (demand conditions)	√	√	√
Positioning	√	√	√
Creative tourism product mix	√	√	√
Place branding/image/identity	√	√	√
Packaging (bundling)	√	√	√
Environmental scanning (PESTEL)	√	√	√
Measurement of creative tourism performance	√	√	√
Leadership	√	√	√
Structure	√		
Funding	√	√	√
Stakeholder collaboration	√	√	√
Policy	√	√	√
Intellectual property law	√	√	√
Impact of COVID 19	-	√	-

Source: Author developed

As cited in Table 5, all four stages (independent variables) namely; SA, SD, SF, and SE have a significant positive relationship with dependent variable Creative tourism strategy (CS) supporting the four hypotheses. However, SE with a Pearson's Correlation Coefficient value of .794 has the strongest positive

relationship with CS followed by SD (.725), SA (.700) and SF (.688). However, innovation (SA2) and impact of COVID 19 (SD5) were eliminated as they reported a weak correlation values of .023 and -.055 respectively with the dependent variable CS.

The finalisation of components of creative tourism strategy (CS) requires further assessing the relationship between sub components of SA, SD, SF, and SE with CS. By securing both higher Pearson correlation values and mean values than SA3, other four components represent SA in creative tourism strategy as cited in Table 6. As cited in Table 7 all four strategy components of SD securing higher Pearson correlation values represent SD in creative tourism strategy. By recording both higher Pearson correlation values and mean values than SF4, other seven components represent SF in creative tourism strategy as cited in Table 8. By reporting both higher Pearson correlation values and mean values, all seven strategy components represent SE in creative tourism strategy as shown in Table 9. Accordingly, a total of 22 creative tourism strategy components comprises of 15 main and 7 sub components (in blue) falling in to stages of SA, SD and SF were identified for Sri Lanka as depicted in Figure 1.



Figure 1. Components of creative tourism strategy by stage

Source: Author developed

The main components of creative tourism strategy cited in Figure 1 above shows a good fit with that of Porter's Diamond model as depicted in Figure 2.

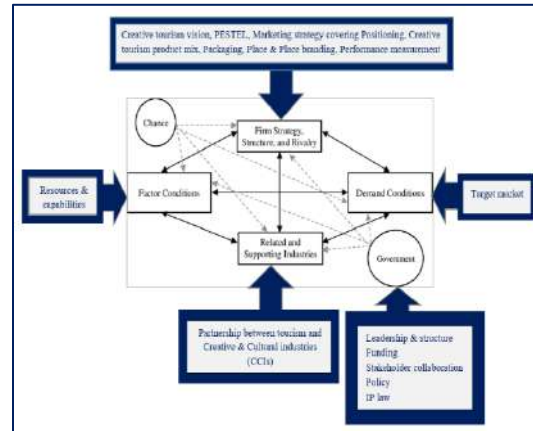


Figure 2: Revised Porter's Diamond model for creative tourism strategy

Source: Author developed

The use of Porter's Diamond model permits adopting a national competitiveness view to creative tourism strategy development as competition takes place between tourist destinations. Therefore, the revised Porter's Diamond model for creative tourism strategy cited in Figure 2 is recommended to be tested in future research.

As cited in Table 10 components of creative tourism strategy securing mean values above 4.0 confirm that introduction of creative tourism to Sri Lanka leads to following benefits namely; employment opportunities and SME entrepreneurship opportunities (social and economic benefits), cultural value of identity (cultural benefits), demand for creative products & services (economic benefits) and preservation of creative & cultural assets (sustainable development benefits).

5. Conclusion

This paper identified destination-level creative tourism strategy components under the four typical stages of strategy development with the intension of resolving dual problems faced by the country. Especially with regard to strengthening weak creative economy, the findings confirm the contribution of creative tourism towards economic, cultural, social, and sustainable development aspects that make up the creative economy. However, the implementation of creative tourism strategy requires both leadership from the government of Sri Lanka and collaborative partnerships between stakeholders in tourism and creative & cultural industries. The study provides a unique contribution to existing knowledge as it is underpinned by hybrid lenses of strategic management theory and marketing theory that seems rear in creative tourism research. Despite the contribution this research faces two main limitations namely; limiting the strategy components to experts' suggestions and the inability to generalize the strategy components as all experts represent Sri Lanka.

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HIV through the Eyes of Others: Communication Campaigns Over 30 Years

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Abstract: Human Immunodeficiency Virus has existed in the world for nearly a century. However, it was as late as the 1980s when HIV gained notoriety, mainly due to many American homosexual men being diagnosed with HIV. The condition was soon stigmatised, given its transmission mode of sexual contact. Additionally, the media also contributed to this stigmatisation, with some early campaigns focused on equating HIV with AIDS, and both with death. However, the 20th century ended on a somewhat more positive note and the 21st century has moved on to acceptance, advocacy and lobbying. In 2021, there were 37.7 million people infected worldwide, with 1.5 million annual new infections. Only 0.01% of Sri Lanka's adult population is infected at approximately 3,600 reported HIV cases (cumulative). The research aims to understand the marketing and communication messages for HIV and AIDS over three decades. This desk review assessed the confluence between HIV and communications and the future of campaigns. In developing the methodology and conceptual framework, theories were narrowed down through logical arguments to best fit the research objectives. This allowed to narrow the literature, campaigns and platforms to be studied. This paper thus provides a telescopic view of the communication effort for 30 years since 1985 and predicts a shift to social media in future campaigns. It is expected that a historical view will assist local and national policymakers in their future campaigns and the detailed look at social media will help them create content effective on those platforms.

Keywords: Communication Campaigns, HIV, Media Campaigns, Social Media

1. Introduction

Discovered in travellers in the Congo basin in the 1920s (Keim, 2014; Avert, 2017; Faria et al, 2014), Human Immunodeficiency Virus (HIV) has been in existence for nearly a century. However, HIV gained notoriety in 1980s when it was discovered in Americans, becoming known as the gay man's cancer (HRSA, n.d., p3; Avert, 2017; Amfar, 2017) due to the prevalence in homosexual men. This seemingly allowed heterosexuals to feel themselves immune, and helped increase the spread. Women were the last to be included in studies (CDC.gov, 2001; Wilder, 2012; Ranmuthugala, 2014), and thus receive medicine, due to the male-centric gaze applied to the disease. Thus, began a pandemic unresolved to this day.

According to 2021 global statistics from the World Health Organisation (World Health Organisation, 2021), currently 37.7 million people are infected and 1.5 million new infections are reported annually. India was responsible for 2.1 million of the total infected as at 2015 (Avert.org, 2015). The USA had 1.1 million HIV infections in 2014 (CDC.gov, 2017), the UK had 101,200 in 2015 (Avert, 2017), Thailand had 440,000 in 2015 (Avert, 2017; UNAIDS, 2016), Australia had 25,313 infections in 2015 (HIV media guide, 2016) and Sri Lanka has about 3,600 people with HIV (NSACP, 2021). Deaths in the 30-year public

history have been 35 million (WHO, 2017; UNAIDS, 2017).

HIV has remained divisive, separating the people living with HIV (PLHIV) from people without. Stigma has played a large role in society's approach to HIV (Health Policy Project, n.d.; Feyissa et al, 2012; Churcher, 2013) given its inherently (and more conspicuously) sexual nature, and stigma has in effect affected people's access to services and resources, from medical to employment.

Strides in research have led to better antiretroviral treatment allowing people to live long lives, and even the possibility of a cure. Multiple events have been recorded of both adults and babies showing promise of being cured: i.e. the Berlin Patient (Highleyman, 2017; Defeat HIV, 2017; Science Daily, 2015; POZ, 2017) and the Mississippi Baby (Young and Wilson, 2014; National Institute of Allergy and Infectious Diseases, 2014; Scientific American, 2017). While a 100%-guaranteed cure has not yet been found, the recent successes in curbing the viral load for months or years has allowed doctors and researchers to hope for a lasting cure soon. It has also extended life expectancy and allowed the possibility of a better life. While research continues to provide new information about transmission, prevention, and rights of PLHIV, it remains to be seen if society will change its stance on the people with the illness. The governments of the world have long attempted to bring the epidemic under control and they have utilised multiple methods to do so. They have utilised scientific and medical researchers, healthcare professionals, and governmental and nongovernmental organisations (NGOs) to send a message to their peoples. Arguably, one of the most effective methods used has been communication campaigns: Governments have used media to communicate to the public. There have been numerous campaigns from

around the world (Davis, 2016) that have carried information to the public. However, a problem seems to arise in the use of such media: History has shown that it is easy to convey fear rather than positivity. Australia's Grim Reaper campaign (Youtube, 2017; Daily Mail, 2016) is a prime example, where the advertisement provided information about HIV using a deep ominous voice and a figure of Death (Grim Reaper) bowling humans down. The information can easily be lost in the overall dark message conveyed by the images of the advertisement.

It is this dichotomy between good intentions and problematic execution that must be addressed. If media is used, it must be done in such a way as to enhance society's participation and acceptance of the core message. This desk research, using existing literature, looks at the history and messaging of campaigns to understand how governments and societies have engaged with the epidemic, the campaigns carried out by the different stakeholders, and the successes or outcomes of the campaigns. It details the existing literature, which provides an effective map to be followed by future campaigns. Given the gaps that have been identified in the literature, mainly in terms of HIV and Sri Lanka, the proposed study is seen as essential to bridge the gaps for local campaigns.

2. Methodology

This desk research aims to address four research questions: How have societies, states, public policies, cultures, etc. responded to HIV issues? How have governments and NGOs conveyed health messages related to HIV to the public? How have communication campaigns attempted to convey messages to PLHIV and the population? How successful have these campaigns been in converting behaviour from risky to safe? Its specific objective is to build a

roadmap for the government and related parties on HIV communication.

The paper's two general objectives are to create a core body of knowledge relevant to Sri Lanka in terms of HIV and communication campaigns and to analyse the interventions of government and nongovernmental parties. Sri Lanka is approaching the 30-year mark of HIV prevalence in the country, and it would help to have a deeper understanding of what global campaigns have been used and were effective, so that the country can use global best practices for its population.

Literature on campaigns on television, radio, and social media will be examined through an interpretivist lens for the changes in the media message and platforms. Given that global campaigns will use other languages, the research bears in mind that the language of the local advertisement (especially when using a global advertisement) is a limitation that must be mitigated with expert dubbing and translations. Also, it must be culturally sensitive and appropriate. This research understands that an effective "hook" in a message will transcend media and languages, but using visual communication is expected to be an effective delimitation to language issues.

3. Results

The desk review analysed campaigns and literature under many different facets. These included health and communication, modes of communication and social media, and attitudes and behaviour. It distinguishes between global and local literature. This section provides an analysis of both the literature and some campaigns.

A. Health and HIV communication

Many researchers have looked at communication as important for PLHIV, but they have looked at it in terms of their own

countries (Oline, 2015; ECDC, 2014; Devos-Comby and Salovey, 2002; French et al, 2014; Jung, Arya, and Viswanath, 2013; Bourne, 2011; Barnes, 1999; Svenkerud and Singhal, 1998; Lagarde, 2003). The goals of the study by Oline (2015) were closely linked to the goals under consideration for Sri Lanka and, thus, it was quite important as a source for possible theory, models, and guidance. Kincaid, et al. (2006) also informed certain aspects of this research because it too attempted to "measure exposure to AIDS communication programs". The research by Fatusi and Jimoh (2006) analysed a different angle, where they examined behavioural change to see whether it happens through communication and propose that it does not always have the same impact as expected. While their finding was that people do not safeguard themselves from HIV even after risks have been communicated to them, the work is used because it examines how communication can impact behaviour.

A multitude of researches analyse other research in terms of communication campaigns and communicable diseases (including but not limited to HIV) (ECDC, 2014; Devos-Comby and Salovey, 2002; French et al, 2014, Noar et al, 2009; Lagarde, 2003) However, such research has a Western World-centric approach, and they do not engage with Asia. Jung, Arya, and Viswanath (2013), Seloilwe, Magowe, Dithole, and St. Lawrence (2015) and Oline (2015) speak of Africa and communication including the use of media. In addition, they identify other researches about HIV communication, but again, do not mention Asia. None of them have spoken of the Sri Lankan context and no Sri Lankan researches were highlighted in any of them. While some information is generalisable, it is argued that no research can be localised to Sri Lanka without access to actual research data. However, it must be noted that Bertrand et al (2006) explore the effectiveness of these

campaigns in the developing world and takes Sri Lanka into its consideration in the review. Thus, this research identified that literature and campaigns in Sri Lanka will have no immediate counterparts but will need some adapting to be relevant.

Devos-Comby and Salovey's research (which bears striking resemblances to the undertaken research) looks at literature on persuasion to propose a framework to help understand the "effectiveness of certain kinds of messages in HIV communications" (2002, p287). The research analyses threat appeals, the main concern of this thesis, role of messages, and matching messages to the target audience. This study brings to focus a hypothesis on why fear is used in persuasion campaigns and engages with several researches analysing fear as a tool in campaigns. It also highlights studies that talk about fear motivating the "need to eliminate the potential danger evoked by the message" (p288). In addition, it talks about personality variables citing Dinoff and Kowalski's 1999 research, and how fear and surprise work in accepting messages, drawing from Dillard, Plotnik, Godbold, Freimuth and Edgar's 1996 study. Overall, the study provides an analysis of literature on threat campaigns and targeted campaigns, but provides no new research.

A seminal and extremely useful body of work, UNAIDS (1999) provided an annotated bibliography of 667 references on topics such as diffusion of innovations, health belief model, theory of reasoned action, AIDS risk-reduction and management model, sense-making approach, social learning/cognitive theories, HIV/AIDS media campaigns, channels of communication, interpersonal/small-group communication, media advocacy, and entertainment-education. Similarly, Noar et al (2009) have undertaken a 10-year review (of specifically campaigns with a large mass media presence) to extend and address gaps not addressed by Myhre and Flora's study in 2000.

Drawing from and extending these reviews, Lettenmaier, Kraft, Raisanen, and Serlemitsos (2014) look at strengthening capacity of HIV communication and measuring such strengthening efforts, based on a thorough review of existing literature. These reviews are helpful to ground the current study and to provide a launch pad. They provide context from around the world that can be extended to work for the Sri Lankan context by providing insight into the channels that are productive and messages that resonate with world citizens.

B. Modes of communication and social media

While there are many methods available today for communication, ranging from television, radio, mail, flyers, etc. to social media and communication platforms such as email, Facebook, Whatsapp and Twitter, social media is singled out in this review because it is both new and considered to be an important part in communication. Also, it can be an equally valuable resource in health communication. Also, given the arguably low reach of newspapers and the higher reach of television, radio and social media, it is more effective to choose television, radio and social media for analysis and exploration. Also, both television and radio are bound by policies from the government and recommendations from this paper can be easily incorporated. Social media is also facing regulation, although it has not reached the status of the other two media.

At the outset of the HIV/AIDS pandemic, governments had access to television, radio, and mail if they wished to communicate to the public. Today, mail has been nearly replaced with email, and television and radio have taken a backseat to social media and the internet. Politics has a major presence in social media. This is borne out by the political situation in Sri Lanka in 2014-2015. The reach of politics (and communications) has changed due to

electronic media (Penn State University, 2016) and governments are increasingly investing in social media campaigns to convey messages to the public. There are campaigns specifically designed for interest groups (women, children, youth, religious groups, racial groups, etc.)

There are different platforms available today, from posting videos to photos to status updates and your curriculum vitae. From Facebook to Whatsapp to LinkedIn, Twitter, WeChat and QQ of China, and Instagram, people are inundated with modes of communication that are fast, simple, easy to use, and fun. This has led to a boom in internet usage, and has opened new avenues for marketers, companies, governments and non-governmental organisations to reach out to people. In addition, there are many companies, software, and applications that offer analytics for the reach and audience of these platforms, allowing everyone to make informed choices. Also, social media has one extra benefit that was not available on broadcast media: The organisation can choose its audience in social media. This was not possible in broadcast media (Miller et al, 2016, p2).

There is massive penetration of social media. According to internetworldstats.com, Armenia has 69.7% penetration with 2,126,716 internet users and Azerbaijan has 61% penetration with 6,027,647 internet users. Both countries record 0.2% HIV prevalence to Sri Lanka's <0.1%. Hong Kong has 80.2% social media penetration, with 5,751,357 users while Japan has 91% with 115,111,595 users, both recording 0.1% HIV prevalence. Singapore (0.15% HIV prevalence) has 81.3% social media prevalence with 4,699,204 users, and Taiwan at 83.8% with 19,666,364 users.

This is slightly different in Asia, with Sri Lanka, Pakistan, Nepal and India all lagging in usage, with 27.4% (6,087,164 users), 17.8%, 19.9% 36.5% penetration respectively. This is also

due to the larger populations in the Asian countries, especially in India, but this penetration landscape is changing and increasing almost daily in Sri Lanka and the region at large. The compared countries are similar or close in HIV prevalence to Sri Lanka (UNAIDS) but offer a wide range of economies and cultures. Asian countries, while similar in culture and economies, provide a vastly different range for HIV prevalence. It must be noted that according to the website Nation Master (2014), Sri Lanka has 31.64% television penetration, India 32%, Pakistan 42.56%, and Nepal 13.18%. Thus, for Asian countries, both television and social media are equally important if campaigns are to bear fruit. In the other mentioned cases, Singapore's television reach is 98.6%, Japan's and Hong Kong's 99%, and Armenia's 90.61%. Similar to the South Asian countries, these countries too show equal importance of both media.

Given the large-scale and equal reach of social media in comparison to television, it is in the best interests of the governments and NGOs to engage with the people on social media platforms. Cranston and Davies (n.d.) explore social networking in terms of HIV communicators in the present and the future, providing recommendations for such communicators on ways in which they could engage with the youth on social networking sites. Taggart et al (2015) also investigate how social media and mobile phones can be part of the HIV communication treatment efforts focusing on literature on using social media in efforts to prevent and treat HIV. Similarly, de Tolly and Alexander (2009) highlight the use of mobile phones as a tool in behaviour change communication in South Africa.

C. Attitudes and behaviour

The African Medical and Research Foundation (2011) explores Kenya's use of media to attempt changing behaviours through

communication and proposes a strategy that will address issues of treatment. Hogg and Vaughan (2005) defined attitudes as a “relatively enduring organisation of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events, or symbols.” Both Eagly and Chaiken (1993) and Ajzen (1988) posit that attitudes are the mental tendency or disposition to react favourably or unfavourably to situations. While Hogg and Vaughan talk about an organisation of beliefs, these writers place the agency with the person. This emphasis on a person’s reaction to situations is important because this paper posits that communication messages inspire different feelings that urge people to react favourably or unfavourably to others or situations. Following this reaction, their attitude then becomes a behaviour, which is still inspired by the message. All of these definitions are extended by McGuire (1985) who defined attitude as “responses that locate objects of thought on dimensions of judgement”. These studies are seminal and noteworthy because they provide a basis from which to understand how campaigns affect the audience’s attitudes and behaviours on the different platforms.

4. Discussion and Conclusion

In the above sections, this paper detailed the existing literature on campaigns around the world. The Grim Reaper campaign in Australia in 1987 and the Human Ball campaign in Belgium in 2005 are the well-known opening and ending campaigns that use fear as a motivator against HIV or AIDS. In the first, the Grim Reaper knocks down humans as an ominous voice provides statistics and attempts to make people aware. In the latter, a human being falls and rolls down, taking all in his path with him till they make one massive ball of humans. Both use fear as a tactic, as does the AIDS kills poster and advertisement campaign. Other campaigns include Stay (1988) and

Symptoms (1990), both from the UK. The first shows a possible sexual encounter between a woman and man, where the HIV-positive woman asks the man to stay and he must decide. The second ominously repeats five symptoms of AIDS, while laughter can be heard. None of these, which are only a handful among many done in a similar vein, use an empathic tone or promote a sensitive message.

In correlating those to the literature, it is possible to understand that while fear was preferred, the induced fear did not translate to altered behaviour. People continued in their risky behaviour because the research from the 1980s was that it was a gay man’s cancer. Heterosexuals considered themselves immune. The homosexuals, while aware, were first not given the right information to protect themselves and second, were ostracised as culprits of this disease. The media campaigns created that fear of the person who carried HIV rather than of getting the disease. The populations responded by stigmatising and discriminating those who had HIV.

Recently, the trend has been to use empathic messaging, as in the USVI Department of Health World AIDS Day 2016 Commercial, where a young man is excited about going to college, but finds out he is HIV-positive after a night at a party celebrating the college acceptance. The way the mother stands by him is a message of hope to PLHIV and a message to support networks to not isolate the person. This is the trajectory that new advertisements and campaigns are taking because of the generation shift. These campaigns draw from knowledge of past campaigns and of theories on attitude and behaviour change.

Having analysed both literature and campaigns and the global instances and effects of discrimination of PLHIV, it is possible to propose some regulations that should be incorporated into any local campaigns. It is not

possible to merely plant global campaigns within the local context. The national authorities need to understand the trajectory of campaigns across the world and understand the effects of using fear or negative emotions. It must weigh the cultural context of the country with the numbers against the global context, and create campaigns that meet global standards.

This is especially true if the government intends to take campaigns to social media platforms. Such campaigns need a different approach, one that calls on the government and local authorities to be creative and understand the audience. Not conducting enough research to understand the audience will result in campaigns that are ineffective. While the government and hospitals have been steadily working on HIV-related matters in a bid to reduce numbers, it is important to bear in mind that former campaigns will not carry the weight they did earlier. A generation has changed, and it is imperative that the government makes the necessary adjustments. There is a significant need for change in the ways campaigns are created.

This will also help in reducing the stigma, discrimination and ostracization that separates PLHIV from those without HIV. A campaign that calls on people to understand and sympathise with rather than to fear those with HIV will allow the general population to see the human behind the disease. That is why a government must be at the centre of the discourse, especially from a public health perspective: It must give guidance and leadership to the population on illnesses that the public does not have enough understanding of. Changing the discourse will change the behaviour and attitudes of people, which makes it easier to manage the disease. They will be careful rather than dismissive, and they will be receptive to guidance from the government and public health officials.

In conclusion, this paper identified some campaigns from different countries between 1985 and 2015 that were aired on television and published through brochures, analysed existing literature on campaigns and theories, and predicted that social media will become the new frontier of campaigns. The paper calls on governments and authorities to use existing knowledge on the trajectory and (in)effectiveness of various global campaigns to create timely and accessible campaigns on social media that will be acceptable to future generations. Such a forward-looking approach will keep information relevant and the campaigns fresh. Also, social media campaigns have the added benefit of costing less than television, radio or print media campaigns, thus reducing the burden on government funds.

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Awareness on Big Data and Its Impact on Consumer Privacy; With Special Reference to Franchise Fast Food Chains in Sri Lanka

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Abstract: Organizations are increasingly turning to use big data which allows them to predict consumer behaviour perfectly. The main purpose of this research is to explore the consumer awareness on big data and its impact on consumer privacy as well as analysis the factors according to the consumer's point of view. The research is conducted by using quantitative approach and data are gathered via a questionnaire in a survey method. The questionnaire is designed to investigate consumer awareness on big data and consumer privacy, data security, customer service information search towards franchise fast-food chains in Sri Lanka. The population of this study comprises of consumers between the age range of 20 to 35 who live in the Colombo district, Sri Lanka and use non-probability sampling method to gather data from 113 franchise fast-food consumers. In order to test the validity of the research, correlation analysis and expert validity methods are utilized. To test the reliability of the variables, Cronbach's α analysis is conducted. Multiple regression analysis is used to test the conceptual model and mediating affect is tested by using Sobel test. Based on the results, there is a significant impact on information search and consumer privacy. Consumer awareness is examined as the mediator and Sobel test shown that it has no mediation affect. The study focuses on a single district, Colombo. Hence, the model's stability has to be checked in several districts. Thus, the study recommends that consumers be cautious

when providing personal information to third parties in order to avoid these difficulties. Furthermore, findings and suggestions are explored in depth throughout the research.

Keywords: big data, consumer privacy, consumer awareness

1. Introduction

A. Background of the study

Big Data refers to the collecting of massive and complicated datasets and data volume that includes massive amounts of data, data management capabilities, social media analytics, and real-time data (Le and Liaw, 2017). Nowadays from a business perspective, there are many large corporations and organizations which have started accumulating big data without any doubt. Through that, many organizations have access to various sources like SMS text, call logs, YouTube, and social media such as Facebook, Instagram, blogs, etc (Le and Liaw, 2017). According to the modern privacy law, fair information practices are the major challenge for big data (Crawford and Schultz, 2014). In the Sri Lankan context, Sri Lankan fast food supply restaurants also have started to use big data in their respective marketing strategies. Global big data trend also has a big positive impact on the Sri Lankan trade sector. As a result of that, the fast-food restaurants in Sri

Lanka have started to pay more attention to big data analytics recently. Especially in the supply chain, online customer data and location data, are passed from one firm to another information supply firm (Kirsten, 2015). Within this situation, those companies may sell data to the third-party companies. This cause to create the huge privacy issues within society. People who use social networks have very low awareness of big data. Badiozaman (2009) stated that among the consumers, majority are willing to give their personal data except financial and credit data. Therefore, this research helps to aware on franchise fast food consumers in order to aware about privacy issues on big data. It means the major scope of this study is consumer awareness.

B. Problem Statement

Within Sri Lanka, digital and cloud services, which collect data are becoming rapidly popular (Senaratne, 2020). For an example, McDonald's, KFC, Pizza Hut and other well-known fast-food chains use big data to stay on top of the industry (Rajput, 2020). Most of the companies collect a variety of data and then target advertisements based on that data (Senaratne, 2020). Then, those data are passed from one company to another company. In this situation, data also transfer to tracking companies and the data aggregators. Finally, there is a probability that data aggregators may sell these data to third-party companies, or they can use these data for their advertisements purpose. It causes lead to huge privacy issues among consumers, but people who use social networks have very lesser awareness about this matter. Consumers give their personal information to franchise restaurants without think twice but consumers do not have a proper idea about what these companies do with their personal information. Consumers lack awareness about data privacy and big data can lead to huge profits for the companies and huge losses for consumers.

Hence, the lack of consumer awareness of big data affect on consumer privacy can be problematic. As a result, the research fills the gap of examining the consumer awareness of big data and its impact on consumer privacy. However, in Sri Lanka, there has been only limited number of researches that have been carried out relating to this matter.

C. Research Question

Q1; How does the consumer awareness on big data affect on consumer privacy?

Q2; What are the factors that affect consumer awareness of big data?

Q3; What are the main factors affect on consumer privacy?

D. Objectives of the Research

The main objective of this study is to explore consumer awareness on big data and its impact on consumer privacy and analyze the factors according to the consumer's point of view. In addition to that, the sub-objectives are as follows,

To identify factors, that affect consumer awareness of big data.

To identify the main factor, affecting consumer privacy.

E. Significance of the Study

Many privacy issues are triggered due to the low awareness of people. Zhang (2018) stated that "Big data has two sides, it provides convenience for consumers while also bringing certain risks".

In today's electronic world, successful companies' competitive strategies increasingly rely on large amounts of customer data, and without the users' knowledge or consent, some companies collect marketing data on their Internet behaviours (Roca, García and de la

Vega, 2009). As the usage of big data grows, a variety of ethical concerns about the gathering and use of consumer data have arisen (Perreault, 2015). For an example, when the watch was released, Apple predicted that millions of customers would use apple watches for all of the things from checking their heartbeat to coordinate their social calendar to control their home entertainment remotely (Adil and Izhar, 2016).

One of the major research concerns at this time is how to raise consumer awareness of big data and how to preserve their privacy (Zhang, 2018). Therefore, the research addresses the problem according to the consumer's point of view. This article begins with big data, examines consumer awareness regarding big data and privacy issues, and proposes security actions for big data security and privacy. This research offers ways for increasing big data awareness and success factors for businesses looking to improve data security and consumer loyalty.

2. Literature Review

A. Big Data

Big data is a buzzword and different researchers look at big data from various points of view. Therefore, it is not easy to give a definite definition to it. Lamba and Dubey (2015) stated that big data is the use of various analytic methodologies to handle a variety of large size and complicated data to extract useful results that fulfil a firm performance. Similarly, specialists in the field information technology, expressed big data as massive data sets that require super devices to collate, process, and analyze to get meaningful conclusions (Moorthy *et al.*, 2015). There are four characteristics of big data; volume, velocity, variety, and value (Kshetri, 2014; Tennakoon and Lasanthika, 2020). Volume means the amount of data collected and stored, Velocity means the rate at which data is

received, variety means the various types of data from different sources, and value means the insight of which the organization gain Kankanhalli *et al.*, (2016) as cited in (Tennakoon and Lasanthika, 2020) stated that because of its great variety, high velocity, and volume, processing big data is difficult. Furthermore, those characteristics or dimensions of big data are deeply linked to privacy and security issues (Kshetri, 2014).

Nevertheless, presently impact of big data has changed the lives of people and many industries. Its greatest impact is on the marketing field (Tubbs, 2021). Today's marketers are highly concerned about consumer privacy, personal data gathering, analysis, and utilization (Moorthy *et al.*, 2015). If organizations use the information embedded in big data sets, they may improve their decision-making and achieve their goals. There are different sources of big data such as social media, vehicles, mobiles, energy meters, satellites, digital senses, and the internet. Among them, social media is a widely used source to collect big data (Moorthy *et al.*, 2015). Therefore nowadays, the concept of privacy issues of big data is the most considerable area.

B. Privacy Issues in Big Data

Nowadays, serious privacy problems have arisen from big data (Crawford and Schultz, 2014). Similarly, Moorthy *et al.*, (2015) also stated that many ethical and privacy challenges are coming to light with the emergence of big data and there is a clear conflict between big data security and privacy (Jain, Gyanchandani and Khare, 2016). Companies which collect big data know people's secrets and these companies combine people's personal details with various data sets (Terzi, Terzi and Sagiroglu, 2016). Researchers classify privacy issues into two categories, homegrown problems and big data problems

created by others (Smith *et al.*, 2012). By contrast, security and privacy issues have been categorized for big data under five titles. They are Hadoop security, cloud security, monitoring and auditing, key management, and anonymization (Terzi, Terzi and Sagioglu, 2016). Many nations have identified the seriousness of big data's privacy issues. In order to safeguard customers' privacy and personal data, several nations have established data protection legislation that attempts to control the use of consumers' PII by companies (Salleh and Janczewski, 2016). Buhl and Heidelman have found that the "most severe issues of big data" are country-based privacy rules and regulations (Salleh and Janczewski, 2016). It can be concluded that there are privacy issues on big data and to protect consumers many countries have taken necessary actions.

C. Franchise Fast-Food Chain

"Fast food" plays a major role in everyday life in current time. When lifestyle is fast and time-consuming, fast food is particularly important for each and every one. Fast food is simple, fast, and easy food which as well as being sanitary and safe. Not only that fast food is quick and easy to prepare and free from microbial contamination. In contrast to ancient times when people used to eat attentively and carefully, the current trend altered behaviours into simple and easy-to-digest meals (Udurawana, 2015). Therefore, people in modern society mostly use that fast-food chain.

To keep solvent in an ever-changing market, businesses must use a variety of strategic techniques. Organizations are attempting to achieve their objectives by applying efficient marketing strategies. Customers are the assets or the focus of success in every firm. Every firm must adopt some promotional and commercial tactics, such as franchising and contracting, in order to be successful (Fasana and Haseena,

2017). As an example, restaurants use a wider variety of digital technologies, including kiosks, smartphone applications, and computers. In addition, to provide a more easy modern paying procedure, they may improve the customization and personalization of the data sets collected by their shops (*Michigan state university*, 2020). One of the service options for quick food supply is home delivery. In this context, the fast-food modality is typically referred to as practical food and according to the ABRASEL data, it has expanded substantially (Nakao *et al.*, 2019). Not only that, but franchise food chains also collect their consumers' personal details for their strategy-making purposes. The franchise fast foods are more popular worldwide, because of their attractive and amazing business strategies. However, at times some problems may arise due to using of customers' personal data without their permission.

D. Data Security

Data security is the method of safeguarding digital information during its lifecycle against unauthorized access, corruption, or fraud (Lycett and Oracle, 2012). Similarly, data protection can also be described as the method of shielding confidential information from unauthorized access (Poza, 2021). However, Le and Liaw (2017) stated that data privacy, data security are major issues in the big data period. Hence, data security and privacy protection have become fundamental needs for protecting end-users in their market, economics, and everyday lives (Zhang *et al.*, 2018). Data security can be measured by using safety on sanctions and guarantees (Ha, 2004). When people provide their personal data to others they always think about safety and how to guarantee the securing of their data. People are on high alert due to the possibility of misuse of data, as frequently reported in the news media. Therefore, there should be a secure link for card payment information

transmission (Ha, 2004). People require visible terms of service that explain exactly how the organization will handle the data. It can be concluded that data security is an important aspect when it comes to issues in big data.

E. Customer Service

The happiness of customers is very important. Therefore, high-quality services should be provided to satisfy them. Customer service means the level of the service and handling of returns/return policies prior to and afterward the sale (Blut, 2016). In offline businesses, there is always someone on hand to assist customers during the purchasing process, but there is no personal contact in online businesses (Rita, Oliveira and Farisa, 2019). Then, some online business provides service to their customer to ask more details of the product that need to buy (Rita, Oliveira and Farisa, 2019). For that, they provide contact service to customers through email (Blut, 2016). Analytics in the supply chain or delivery route is one unique use in big data for business processes and Sensors use to track items or delivery vehicles based on their geographic location and radio frequency identification (Le and Liaw, 2017). Therefore, this process helps Customers to track their orders. Hence using big data analytics, organizations can improve their customer service. Moreover, Retailers can use web search data, consumer behaviour, and weather forecasts to optimize their inventory (Le and Liaw, 2017). Some customers may not only use the website's formal methods to complain about items or services, but they may also post on social media about their groups (Le and Liaw, 2017). As a result, retailers need to keep track of such consumers' information and practice extra vigilance so that their complaints are handled twice as quickly. Therefore, organizations use big data to enhance their customer service.

There are two characteristics to the first-order dimensions of customer service. They are services level and return handling/policies (Rita, Oliveira and Farisa, 2019). Holloway and Beatty (2008) study has mentioned that reliable customer service, paired with fair and well-communicated return policies, is a key factor in increasing customer satisfaction. Furthermore, the data obtained may be utilized to enhance market speed and customer service levels (Kwon, Lee and Shin, 2014; Woerner and Wixom, 2015). As a result of many researches it is assumed that the online retailer's service level and return handling contribute to the sense of outstanding customer service. It can be concluded that big data can use to enhance the quality of customer services (Le and Liaw, 2017).

F. Information Search

Information search is a process where a requirement has been identified by the consumer, a buyer looks to discover the best relevant supplier(s) (*Information Search*, 2018). Before buying something, consumers can be attracted to and watch the advertisements, read articles, and turn to consumers' reports (*Information Search*, 2018). Therefore, people have a comprehensive experience of the Information Search Process, which includes a range of ideas, feelings, and actions (Fisher, Erdelez and McKechnie, 2005). The areas of information searching are concerned with the interaction of people and content in information systems. As a result, it considers the three perspectives of humans, information, and technology in locating data stored in computer systems (Jansen and Rieh, 2013).

Information search is indicated by information quality and searching service quality. The perceived value of a website's output is measured by information quality. Overall client assessments of the value of the searching

service, such as promptness, appropriateness, and actuality, can be categorized as searching service quality. Information search can become a source of sustainable competitive advantage in hopes of obtaining client satisfaction (Le and Liaw, 2017). It can be concluded that consumers do search for information that is related to their intention.

G. Consumer Awareness on Big Data

Big data is gaining popularity as a critical source of competitive advantage for businesses and communities, and its qualities are closely tied to customer privacy, security, and wellbeing, drawing the attention of academics, corporations, and policymakers (Kshetri, 2014). As a consumer, it's important to be conscious of these factors.

As the usage of big data grows, a number of questions about the ethical acquisition and use of consumer data have arisen (Perreault, 2015). Consumers' capacity and ability to protect themselves against crafty traders may be distorted by their lack of information and awareness about big data and consumer rights (Ishak and Zabil, 2012).

Customers are more eager to share demographic and lifestyle information to marketers than they are to give financial or personal identifiers (Phelps, Nowak and Ferrell, 2009). In addition, big data awareness is at a moderate level and principally contributed by usefulness level understanding and effectiveness level understanding of big data (Tennakoon and Lasanthika, 2020). Finally, it shows that as a consumer, having a thorough awareness on big data is very important, so that they can make the best decision possible before disclosing personal information to third parties.

H. Consumer Privacy

Consumer privacy, which is also known as customer privacy, refers to the management and security of confidential personal details collected by users during daily transactions (Lutkevich, 2020). 100 years ago, Warren and Brandeis expressed their opinion on privacy referred to as "the right to be left alone," there is no definite definition to describe the word of privacy (Unalan and Yaprakli, 2017).

People get benefit from modern internet technologies in the big data era. Data has such a significant financial value for internet service providers; however, data analysis and implementation are becoming extremely powerful and hard to control, and compromise personal privacy (Zhang, 2018). Therefore researchers have paid their attention to privacy in numerous research areas including information systems, sociology and psychology (Badiozaman, 2009; Lee *et al.*, 2015). There are various ways to measure consumer privacy. Some researchers have suggested that personal data and credit card information are tallied with their concerns for information privacy when it comes to big data (Ha, 2004).

The arrival of the big era has not only created significant prospects for social progress, however, but it has also introduced many things to the information security problems to a society, raising concerns about the protection of personal data privacy. It can be concluded that consumer privacy is very important when researchers consider big data (Zhang, 2018).

I. Impact of Consumer Awareness Towards Data Security

Mejias and Balthazard (2014) as cited in (Harper, 2016) said that understanding security threats is referred to as security awareness. Presently, data security and consumer awareness have become controversial topics. Since, the sensitive nature of consumers' data and privacy concerns, it is

essential to consider customers' data-security awareness (Nield, Scanlan and Roehrer, 2020). Personal data of consumers are collected by companies and governments without consumers' awareness (Nield, Scanlan and Roehrer, 2020). Some researchers have found that consumers have good knowledge about data-security awareness (Nield, Scanlan and Roehrer, 2020). Similarly, according to certain study findings, customers have a high degree of knowledge when it comes to data breach preparation and data security (Nield, Scanlan and Roehrer, 2020). Customers' lawsuit case against United States drugstore Walgreens shows that consumers are becoming more conscious of data misuse or abuses (Kshetri, 2014). Consumers have raised their voices about companies a breach of integrity and the misappropriation of private information (Kshetri, 2014). However, most businesses have not created the best approaches to ensure the privacy and security of consumer data (Kshetri, 2014). It was argued that when public awareness of security problems grew, adoption of the technology would decrease but the findings of studies demonstrated that the statement was false (Harper, 2016). Due to these reasons, all countries have emphasized the necessity of data security for consumers, companies that store data, and all governments trying to safeguard their citizens (Nield, Scanlan and Roehrer, 2020). As per the previous researchers, it can be concluded that there is an impact on consumer awareness towards data security. Hence, the following hypothesis can be proposed:

H₁: Consumer awareness on big data mediates the impact of data security towards consumer privacy.

J. Impact of Consumer Awareness Towards Customer Service

Nowadays Organizations may use big data to substantially improve their customer services

(Le and Liaw, 2017). Listening to customers and fulfilling their needs and wants is critical, especially in this modern era of information processing (Görgens, 2019). If they did not maintain good client relationships, definitely they would fail their business (Görgens, 2019). Therefore, the majority of online firms offer customer services that help customers to obtain additional information about the product that they desire to purchase (Rita, Oliveira and Farisa, 2019). Deb and Jain (2018) as cited in (Görgens, 2019) stated that using these technical tools, businesses can gain a deeper understanding of their customers, develop and recommend the ideal product for them. By that, organizations can improve their customer services. In contrast, big data is more likely to harm the well-being of naive, vulnerable, and technologically illiterate consumers (Kshetri, 2014). It occurs as a result of a lack of awareness. However, Görgens (2019) has found that clients are aware that businesses utilize their information to target them with customized advertisements but they do not like to disclose their data with third parties. Similarly, Kshetri (2014) has found that the majority of consumers are opposed to the secondary use of their personal information. As per the previous researchers' findings, it can be concluded that consumer awareness of big data and customer services are interrelated. Hence the following hypothesis can be proposed:

H₂: Consumer awareness on big data mediates the impact of customer service towards consumer privacy

K. Impact of Consumer Awareness Towards Information Search

The stage of the buyer selection process where the consumer is required to seek out further information is known as information search. Surfing the internet was the primary source of information (Bailey, 2013). Internet is

important as a source of information and feedback from customers, as well as its impact on consumer behaviour. Online shopping allows customers to access product reviews and feedback websites about their business and customer experience of buying and using specific products (Bailey, 2013). For an example, customers can post reviews on the specific product they consumed via a link on Pizza Hut's website. It is important to have an awareness of these links and consumers can visit any product review website before they make an online purchase. Tracking cookies pose a serious danger to customer online privacy since they are used to collect information without permission (Shahid, 2021). Due to these reasons consumers should be concerned about the personal information collected through cookies on these websites. As per the previous researchers, there is a considerable link between information search and customer awareness. Hence, the following hypothesis can be proposed:

H₃; Consumer awareness on big data mediates the impact of information search towards consumer privacy.

L. Impact of Consumer Awareness Towards Consumer Privacy

Quite possibly the most notable meaning of privacy is "the right to be left alone", as gone ahead by Warren and Brandeis in their Harvard Law Audit article, "The Right to Privacy." Ishak and Zabil (2012) have stated that in terms of defending consumers' rights, there is a relationship between consumer awareness and efficient consumer behaviour. In modern society, people are the benefactors of internet technology in the big data era. For Internet providers, data has a high financial value, but its analysis and use are more complicated and difficult to control, putting personal privacy at risk (Zhang, 2018). Furthermore, a large quantity of data suggests

that security breakdowns and privacy violations are going to happen in much more serious consequences and losses, such as reputation harm, legal responsibility, ethical damages, and other problems (King, 2014).

Therefore, a lack of consumer awareness is leading to a threat to the privacy of the consumer. A lack of client awareness, as well as business malpractices, are to blame. Many businessmen abuse consumers in order to maximize profits by selling low-quality goods at exorbitant prices. Adulteration, boarding, black-marketing, and other unfair trading tactics use for their business purposes. As a result, customers are not getting their money's worth (Minhas and Chandel, 2018). Furthermore, requiring providers to be transparent can increase customer knowledge of how their data can use and define which third parties can access and share potentially personal and important information (Bagley and Brownntt, 2015). As the points, there is a link between consumer awareness and consumer privacy. Hence, the following hypothesis can be proposed:

H₄; Consumer awareness on big data affect on consumer privacy.

M. Impact of Data Security Towards Consumer Privacy

Data security refers to all the techniques and tools used to protect both the data and analytics processes from attacks, theft, or other harmful behaviour which could harm or adversely affect them (Data security, 2021). Consumer privacy refers to the management and protection of private personal information acquired by users during everyday transactions (Lutkevich, 2020).

Data security is very important when considering consumer privacy. Individuals value the convenience, which is provided by big data, but they also encounter a number of

disadvantages. If big data is not adequately protected for user data during the usage process, it will immediately harm user privacy and data security. It is classified into three types of protection content: anonymous identifiers, anonymous protection, and privacy protection (Zhang, 2018). People's data security issues are more than just conventional issues of personal privacy; they are also depend on data analysis and study of people's information, as well as focused prediction of people's condition and behaviour (Zhang, 2018).

As per the researchers, it can be concluded that the data security of the consumers and privacy of the consumers are interconnected because consumer privacy is mainly dependent on the security of consumers' data. Hence the following hypothesis can be proposed:

H₅: Data security affect on consumer privacy.

N. Impact of Customer Service Towards Consumer Privacy

Building trust with customers and providing secure service is the main quality of successful customer service Lovelock and Wirtz (2006) as cited in (Wirtz, Lwin and Williams, 2007) has stated that e-service businesses are rapidly using the internet for one-to-one marketing and service delivery to millions of clients, allowing them to provide personalized service and loyalty programs at a lower cost. However, changing marketing and customer service to the internet, on the other hand, comes with a slew of issues, including the advent of severe privacy concerns and also negative consumer reactions (Wirtz, Lwin and Williams, 2007). Thus, customers are always very careful of the websites whether they always protect them from fraud after a transaction (Rita, Oliveira and Farisa, 2019). The same study shows that website security and privacy are vital when evaluating the service quality of online

retailers. As a result, the website must provide assurance and security in order to enhance the website's authenticity as well as service quality. Moreover, with access to customer support channels, web site encourages service quality and privacy protection (Resnick and Montania, 2003). The same study has found that, when service quality link was prominent, there is no considerable difference in expectation of privacy protection. Therefore, typical e-commerce websites promote service quality and also privacy protection with links to customer service channels and privacy policies. Resnick and Montania (2003) identified that these connections, like customer service links, didn't provide any explicit information about how privacy was maintained. As per the previous researchers, it can be concluded that there is a notable impact on customer service towards consumer privacy. Hence, the following hypothesis can be proposed:

H₆: Customer service affect on consumer privacy.

O. Impact of Information Search Towards Consumer Privacy

Information search on a website can take as an action of website familiarity (Li, 2014). Presently, information search and consumer privacy have become controversial topics. Recently researchers have found that all most all online companies gather personal information from those who visit their websites (Taylor, 2004). Moreover, various websites use cookies to store consumers' information, which can raise a variety of privacy problems (Li, 2014). Online businesses which gather data may use it for secondary reasons and may use it improperly (Li, 2014). Presently, requirements have gone beyond traditional "buyer beware" warnings, rather now researchers expect a basic understanding of privacy problems from consumers (Rapp *et*

al., 2009). In certain situations, the ease with which firms may acquire information from Internet searches and through online purchases and are directly linked to the loss of trust among consumers (Taylor, 2004). Consumers are becoming more conscious that their online purchases and other actions are tracked, catalogued, and sold (Taylor, 2004). Besides, consumers who have knowledge about privacy threats often express concern about how a website gathers and uses their information (Li, 2014). As per the previous researchers it can be concluded that there is an impact on information search towards consumer privacy. Hence, the following hypothesis can be proposed:

H₇; Information search affect on consumer privacy.

3. Methodology

A. Research Design

The research onion gives a quite exhaustive explanation of the key layers or steps which have to be performed to build a successful methodology (Raithatha, 2017). This study was conducted in accordance with the research onion. The research philosophy for this study is positivism. As the research approach, this study uses deductive approach where it recognizes the necessity to explore the relationship between variables. A survey is the research strategy to collect the data. The research choice of this research is mono method. The time horizon is cross-sectional. The data was gathered over one month of time period which helped to find the answers for the research question.

B. Population

A population is known as any collection of specified group of human beings or of non-human entities such as objects, educational institutions, time units, geographical areas,

prices of wheat or salaries drawn by individuals (Wani, 2017). Therefore, the population of this research is the people who were born during the period 1986- 2001 who are in the age range of 20-35 is this study's unknown population. The researchers select this age range of consumers because they are living with the technology, and they are known as technological people.

C. Sample

The sample is known as selected collection of certain components from the whole of the population (Wani, 2017). Researchers selected sample size according to the rule of thumb method. Roscoe suggested a rule of thumb to follow for selecting sample size, which is that the number of participants for the questionnaire should be greater than 30 but lower than 500 (Tan, Yuen and Ha, 2018). Therefore, as per the rule of thumb method in measuring the sample adequacy the most applicable sample size is to conduct this research is 113 franchise fast-food consumers. In order to narrow down the research sample is collected from consumers who use franchise restaurants in Colombo district Sri Lanka.

D. Sampling Method

Convenience sampling is used to collect data which involves identifying individuals who are mostly and conveniently available (Taherdoost, 2016) under non-probability sampling method, where sample of participants does not have to be representative or random, but there must be a good reason for including particular instances or persons over others (Taherdoost, 2016).

E. Mediator Test

A variable is considered as a mediator if it explains the relationship between both the predictor and criterion (Baron and Kenny, 1986).

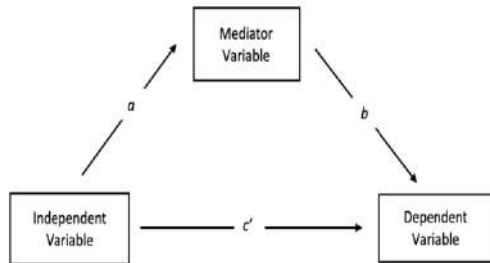


Figure 1. Mediator

Source: (Baron and Kenny, 1986)

Once the following conditions are met, a variable functions as a mediator: (a) variations in the levels of the independent variable significantly account for variations in the presumed mediator (i.e., Path c), (b) variations in the mediator significantly account for variations in the dependent variable (i.e., Path b), and (c) when Paths a and b are controlled, a previously significant relation is no longer significant (Baron and Kenny, 1986). Therefore, consumer awareness can be taken as the mediator in this research.

F. Hypotheses

H1; Consumer awareness on big data mediates the impact of data security towards consumer privacy.

H2; Consumer awareness on big data mediates the impact of customer service towards consumer privacy.

H3; Consumer awareness on big data mediates the impact of information search towards consumer privacy.

H4; Consumer awareness on big data affect on consumer privacy.

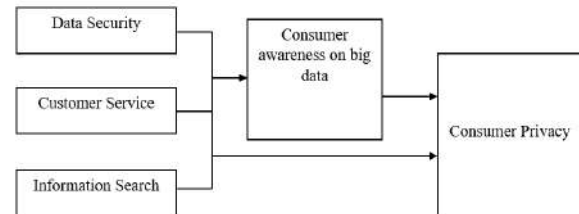
H5; Data security affect on consumer privacy.

H6; Customer service affect on consumer privacy.

H7; Information search affect on consumer privacy.

G. Conceptual Framework

Figure 2. depicts the conceptual framework. As independent variables, data security, customer service, and information search are considered. The dependent variable was chosen to be consumer privacy. Consumer awareness has been used as a mediator in this



study according to (Baron and Kenny, 1986).

Figure 2. Conceptual Framework

Source: Authors (2021)

H. Operationalization of the Conceptual Framework

Table 1. Operationalization

Variable	Indicators	Sources	Measur em-nts
Consumer awareness on big data	Usefulness level Effectiveness level	(Tennakoon and Lasanthika, 2020)	Five-point Likert Scale
Consumer privacy	Personal data Creditcard-information	(Ha, 2004)	Five-point Likert Scale
Customer service	Service level Return-handling/p olicies	(Rita, Oliveira and Farisa, 2019), (Blut, 2016)	Five-point Likert Scale

Information search	Information quality Searching service-quality	(Le and Liaw, 2017)	Five-point Likert Scale
Data security	Safety on sanction Guarantee	(Ha, 2004)	Five-point Likert Scale

Source: Authors (2021)

4. Data Analysis and Discussion

A. Data Presentation

1) Demographic Information;

According to the response of the respondents, females comprise 58% of the sample, while males comprise the remaining 42%.

2) Education Level;

In terms of the highest level of education, 69.0% of respondents have bachelor's degree as the highest educational qualification. The advanced level has been acquired by 18.6% of the sample. 7.1% have professional qualifications. As the highest degree of education, 3.5% of respondents have achieved master's degree and 1.8% of respondents have post-graduate diploma as their highest education level.

3) Age;

According to the age of respondents, 88% of respondents are between the ages of 20 - 25, while 6% are between the ages of 25- 30 and ages of 30-35.

4) Regular Consumers of Franchise Fast-food Chains;

In the questionnaire of this study, it asks from the respondents whether they are regular consumers of franchise fast-food chains in Sri Lanka. Regular consumers of franchise restaurants, all 113 respondents are regular

consumers of franchise fast-food chains in Sri Lanka.

5) Regular Consumers of Franchise Fast-food Restaurants;

81.4% of respondents frequently use pizza hut and 18.6% of respondents do not frequently use pizza hut. Domino's is regularly used by 27.4% of respondents, while just 72.6% of respondents do not frequently use Domino's. 49.6% of respondents use KFC on a regular basis and 50.4% don't. 28.3% of respondents frequently use Mc Donald's and 71.7% of respondents do not frequently use Mc Donald's. 30.1% of respondents use Burger King on a regular basis, while 69.9 % do not. Other franchise restaurants are regularly used by 31.0% of respondents, while just 69.0% of respondents do not frequently use other franchise restaurants.

6) Consumers Response on Whether Restaurants Gather Personal Information;

According to the consumers' response on whether restaurants gather personal information, 84% of respondents say yes when asked if franchise restaurants collect personal information such as their name, address, and phone number, while 16% say no.

7) Likely Hood of Consumers Using Their Personal Information Without Permission;

If franchise restaurants use consumers' personal information without permission, just 4% of respondents agree, while 96% of respondents dislike.

B. Preparing Data for Analysis

1) Accuracy and Completeness;

The researchers have used SPSS version 25.0 for statistical analysis and researchers have originally collected 153 questionnaires, but 36 of them were rejected during the screening process because they are incomplete. Next, the

researchers have used box plots to examine the remaining 117 respondents to determine if there is any variance heterogeneity. The dependent, independent, and mediating variables were all subjected to a box plot analysis, which revealed four outliers. Outliers in the unaccepted region of the box plot were easily detected, and those entails were removed from the data.

Accordingly, outliers are observations that have a specific set of features that distinguish them from the rest of the data (Hair *et al.*, 2009). There are 113 respondents remain for analysis after all steps have been taken.

2) Missing Data;

Missing data might occur as a result of data gathering or during the data entry process. The missing data provide a challenge when generalizing results (Hair *et al.*, 2009). However, researchers have not found any missing values in this research study.

C. Testing for Parametric Assumptions

Researchers have tested for linearity and normality tests. According to the findings, the data set was distributed normally, and the linearity test showed linear relationships because all result was within the acceptable level of significance.

D. Testing Validity and Reliability

Testing for validity and reliability has been done by researchers. As a result, validity and reliability are acceptable.

E. Testing for Multicollinearity and Common Method Variance

Since all predictor and criterion variables reached the permitted level, the researcher's multicollinearity test revealed no multicollinearity in the data. Findings indicate that common method bias is not a substantial cause of data variance.

F. Sobel Test

The Sobel test was used to determine the importance of mediating the influence of consumer awareness on big data between data security, customer service, information search, and consumer privacy. The below table shows (Table 2) the Sobel test results.

Table 2. Sobel test

Models	Sobel test Statistics
data security → consumer awareness	0.179
customer service → consumer awareness	0.114
information search → consumer awareness	0.739

Source: Survey Data (2021)

G. Multiple Regression

The conceptual model is analyzed to examine consumer awareness mediates the connection among data security, customer service, information search, and consumer privacy. The entire effect is tested using multiple regression analysis. It is a mathematical approach for analyzing connections among variables. There are some stages in regression analysis suggested by (Baron and Kenny, 1986). They are (1) the total effect of the predictor variables (data security, consumer privacy and information search) on the dependent variable (consumer privacy), (2) predictor variables significantly impact the mediator (consumer awareness), (3) the mediator significantly impacts the dependent variable, (4) the direct effect of predictor variables on the dependent variable. If the direct impact is non-significant, complete mediation will be occurred; if the direct affect is less than the total affect, partial mediation will be occurred. In addition, multiple regression is used to assess the routes.

Using SPSS, the following tables were created to analyze the multiple regression.

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.392	.154	.122	.664	1.909

Source: Survey Data (2021)

The above table provides the results of the model summary. The coefficient of determination, or R Square, is 0.154, as per the above table model summary. Despite the fact that this value is lower, the regression model is valid because the ANOVA result is significant. The Durbin-Watson test determines if there is autocorrelation by testing a null hypothesis of no autocorrelation against a lower and upper bound for negative autocorrelation and against a lower and higher bound for positive autocorrelation (Wagschal, 2016). The Durbin-Watson test statistic is 1.909, which falls between 1.5 and 2.5 (Marshall and Karadimitriou, 2018). It can be concluded that residuals are predictors which indicate the regression model is fit between independent variables and dependent variable.

Table 4. ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.631	4	2.158	4.899	.001
	Residual	47.654	10	.440		
	Total	56.195	11			

Source: Survey Data (2021)

The Table provides (Table 4) the ANOVA results for the regression model. If the F value is positive and the significance level is less than 0.05, the entire model is significant under 95%

confidence level. The probability of test statistics is 0.001 and also the F value is a positive value (4.899), as indicated in the table, which is extremely significant (Wagschal, 2016). As a result, the regression overall model is significant. It shows that the model is suitable for making the decision.

Table 5. Coefficient Table

Model	Coefficients ^a				
	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta		
1	(Constant)	1.002	.346	2.891	.005
	Data Security	.052	.110	.051	.636
	Customer Service	.137	.123	.116	.267
	Information Search	.282	.115	.240	.016
	Awareness	.165	.088	.171	.062

a. Dependent Variable: Privacy

Source: Survey Data (2021)

The closeness is 0.000 when compared to all significant values, which is highly significant. Data security, consumer awareness and customer service have significant values of 0.636, 0.062 and 0.267 respectively which are greater than 0.05. Therefore, data security and customer service are considered as independent variables with no impact on the dependent variable of consumer privacy. According to the Beta value of 0.240, information search has a positive impact on consumer privacy. Consequently, the information search is affecting positively on consumer privacy while data security, customer service and consumer awareness do not affect.

H. Summary of the Result

Table 6. Summary of the result

H	Predicted Affect	Decision
H ₁	Consumer awareness on big data mediates the impact of data security towards consumer privacy	Do not accept
H ₂	Consumer awareness on big data mediates the impact of customer service towards consumer Privacy	Do not accept
H ₃	Consumer awareness on big data mediates the impact of information search towards consumer privacy	Do not accept
H ₄	Consumer awareness on big data affect on consumer privacy	Do not accept
H ₅	Data security affect on consumer privacy	Do not accept
H ₆	Customer service affect on consumer privacy	Do not accept
H ₇	Information search affect on consumer privacy	Do not reject

Source: Authors (2021)

5. Discussion and Conclusion

A. Discussion

The main objective of this study is to explore the consumer awareness on big data and its impact on consumer privacy and analysis the factors according to the consumer's point of view. There are two sub-objectives in this study. Firstly, the main factor affects on consumer privacy. Secondly, the factors affect on consumer awareness of big data. The objectives have been fulfilled in this research according to the research findings.

Nield, Scanlan and Roehrer (2020) have revealed that customers are well-informed and aware about data security and customers have a high level of awareness when it comes to data breach preparation, according to specific study findings. However, findings of this study contradict the findings of the previous study because consumer awareness on big data does

not mediate the impact of data security towards consumer privacy.

Previous researchers found that people's data security issues are more than just conventional issues of privacy; they are also depend on the analysis and study of people's data, as well as the targeted prediction of people's condition and behaviour (Zhang, 2018). However, findings of this study contradict with the previous findings because data security does not impact consumer privacy.

Moreover (Kshetri, 2014; Görgens, 2019) have found that clients are aware that businesses utilize their information to target them with customized advertisements but they do not like to enclose their data with third parties. It means consumers are very much aware with their privacy. In contrast, Kshetri (2014) also stated that big data is more likely to harm the wellbeing of naive, vulnerable, and technologically illiterate consumers due to lack of awareness. However, findings of current research further revealed that consumer awareness on big data does not mediate the impact of customer service towards consumer privacy. Therefore, according to current research findings customer service is not strong enough to link consumer privacy and consumer awareness.

Previous studies have suggested that Shifting marketing and customer service to the internet, comes with a slew of issues, including the advent of severe privacy concerns and negative consumer reactions (Wirtz, Lwin and Williams, 2007). In contrast, Resnick and Montania (2003) have found that when service quality link was prominent, there is no considerable difference in expectation of privacy protection. Consequently, customer service has a significant impact on consumer privacy according to previous research findings. Nevertheless, this study's results seem inconsistent with the findings of previous researches, because findings of current

research revealed that customer service does not affect consumer privacy.

According to the findings of Bailey (2013) the primary source of creating awareness was internet surfing. The research further reveals that the internet is an essential source of information and that customers are aware of product review websites and are likely to visit them. In contrast to the prior research, the findings of the current study depict a different situation. The study reveals that consumer awareness on big data does not mediate the impact of information search towards consumer privacy.

Previous researchers have discovered that information search can cause a variety of privacy issues (Taylor, 2004; Li, 2014). The findings of this study are also in accord with findings of the previous studies, therefore information search affects on consumer privacy.

The only accepted hypothesis among the aforementioned is that information search affects consumer privacy for the following reasons. When searching for information on franchise websites, customers are concerned about their privacy. Consumers believe that restaurants can use some of their search history records to collect personal data, according to research findings. As previously stated, these websites can obtain users' names, credit card numbers, phone numbers, and other personal data by using search history records. Maybe these restaurants sell saved consumer data to third-party companies for a monetary value, and occasionally if the website is hacked, the data may be handed over to an unknown party. Therefore, the concerning of consumers is fair enough.

The findings of this study indicate that data security has no affect on customer privacy. The majority of consumers believe that if they provide their personal data anonymously,

their identity will be protected. The authors located that; customer service does not affect on consumer privacy. This is because all the customers believe that these franchise restaurants provide excellent customer service, therefore they assume that their data is safe with these companies.

B. Conclusion

Researchers have chosen this issue due to the lack of knowledge of the consumers on big data. The authors anticipated to identify factors that affects consumer awareness and privacy in big data. Answers to the following research questions can be illustrated based on the analyzed results.

Q1; How the consumer awareness on big data affect on consumer privacy?

As per the finalized research data and results, it is quite obvious that the variable of consumer awareness on big data has no affect on consumer privacy. It indicates that the majority of customers are unaware of the importance of big data and how it affects consumer privacy.

Q2; What are the factors affect on consumer awareness on big data?

When examining the factors affecting customer awareness of big data with special reference to franchise fast-food chains in Sri Lanka, various factors such as data security, customer service, and information search were considered. According to the research findings, there is no impact between consumer awareness and the aforementioned three independent factors. This indicates that consumer awareness has no mediating impact.

Q3; What are the main factors affect on consumer privacy?

According to the findings of this study, the authors discovered that just one variable has

an affect on consumer privacy, which implies that information search is the only variable that has an affect on consumer privacy.

According to the researchers observation answers for the research questions have been met.

6. Recommendation

The authors provide certain recommendations, as in prior research studies. The following recommendations are made based on the findings of this study. According to results, the most important element affecting customer privacy is information search. Consumers believe that providing personal data to franchise websites is the only way which can affect to their privacy. However, almost all franchise restaurants manually acquire customer personal data using their staff members. When franchise restaurants manually gather data from frequent customers, they are willing to provide their personal data without reluctance. Consumers are unaware of why they gather data, what they do with it, and do they sell it to third-party companies? However, researchers recommend consumers that give data to websites is not the only way to affect their privacy; manual data gathering can also affect consumer privacy. The findings demonstrate that there is a significant impact on customer privacy while searching information on franchise restaurant websites. As a result, in order to build strong relationships with customers, franchise restaurants should give adequate privacy policies for those who use their websites.

According to the research findings, data security has no affect on consumer privacy. The majority of customers assume that if they give their data anonymously, their identity will remain protected. This is due to the fact that anonymous protection cannot protect their identity. As a result, experts advise people not to disclose their personal information without

concerning their identity and without knowing why the data is being collected. Researchers recommend that organizations use a convenient approach with a guarantee to gather data in order to overcome this difficulty.

According to the findings, there is no affect on consumer privacy and customer service. It indicates that if the service quality and return handling /policies are satisfactory, consumers are willing to provide their personal data. Despite the fact that restaurants provide excellent customer service, researchers recommend consumers to be concerned about providing personal information. According to the researchers observation, above mentioned things can be recommended.

7. Limitations and Future Studies

It's important to recognize the limits of findings of this study, therefore the researchers can offer more useful suggestions for future studies. As with many research studies, the authors located several limitations of this study. The research was done to carry out only in the Colombo district in Sri Lanka because it is practically difficult to cover all the districts. Therefore, future studies can be carried out with a wider sample covering a larger geographical area. Through conducting surveys in other districts as well as other countries, and comparing various cultures, it is recommended that the findings and conclusions be cross validated. Data were gathered from people who were born during the period 1986 – 2001 who are in the age range of 20- 35. This is because people in this age group have a proper knowledge on modern technology and most of them have access to technology devices. In this study, the questionnaire was used as the sole source of primary data. Further research might use qualitative approaches like interviews and focus group discussions to provide a more accurate understanding of customers'

intentions about the usage of big data in franchise fast-food chains. However, the current study used quantitative approach and conducted a survey to gather data. Due to the pandemic situation, the survey was conducted via online to reduce the physical contact with consumers and only 113 fast-food consumers were selected for the questionnaire. Since this study used a non-probability sampling method as the research sampling method, it refrained from generalizing the results. The conceptual framework of the research did not incorporate any moderating factors and any control variables between consumer privacy and independent variables. Therefore, it can be concluded that future researchers can use these to develop their researches.

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Abbreviations

ABRASEL - Brazilian Association Bar and Restaurant

PII - Personally Identifiable Information

Acknowledgment

We like to use this opportunity to express our heartfelt gratitude and great respect to our research supervisor Mr. Lahiru Gunathilake for his supervision, monitoring, and consistent encouragement during the project duration. Our sincere gratitude also goes to all the lecturers of the department of management and finance for their warm assistance. Finally, we wish to thank everyone who helped for making it possible for us to conduct this research project.

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“EyeCare and Blindness Literacy”: Need for Defining a New Construct

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Abstract: Globally, at least 2.2 billion people experience near or distant vision problems, or blindness. Issues related to at least one billion of them could either have been prevented or have not been addressed. Lack of awareness about eye health, blindness, and the life led by the sightless contribute much to this regrettable situation. Having recognized the knowledge gap in literacy and social research, a comprehensive research study was carried out to characterize a new construct called ‘EyeCare and Blindness Literacy’.

As the first step, this paper establishes the need for characterizing such a new construct. It argues that components of the International Classification of Functioning, Disability and Health (ICF model) of the World Health Organization could be successfully adapted to conceptualize this multidimensional construct.

Characterization of this ‘EyeCare and Blindness Literacy’ construct would help to improve public awareness on the issue. Thereby, the eye health and wellbeing of sighted people in general would be improved. This also could be used to promote social inclusion of this vulnerable community, which would in turn make a substantial contribution towards enhancing the quality of life of people with visual impairment and blindness.

Keywords: Eyecare and health, Literacy research, Visual impairment and blindness, Social inclusion

1. Introduction

This research deals with characterization of a new research construct, branded as ‘EyeCare and Blindness Literacy’ (‘ECB literacy’ in short). The broader underlying intention of defining ECB literacy is to raise public awareness and general understanding about personal eye health, and the life of the people with visual impairment and blindness. Scope of this paper is confined to establishing the need for characterizing ECB literacy construct, which is the first phase of a comprehensive study aimed at defining this construct and developing a valid and reliable instrument to measure it. The ECB literacy basically describes what the members of the public need to be aware of (a) for maintaining a favorable level of personal eye health and vision on one hand, and (b) to be a responsible citizen who show respect to people with visual impairment and blindness and to make them become an important part of the society, on the other.

Awareness and understanding of a particular subject area comes under the broader term “literacy”. The long standing popularly shared meaning of the term ‘literacy’ has been the ability of a person to read and write. Accordingly, in a contemporary sense, people with low literacy skills may not be able to read

written material and make sense of them and could not communicate his or her ideas in writing. However, this basic characterization of the term 'literacy', passed from generation to generation, has now evolved to cover wider perspectives involving in various subject disciplines. As a result, a numerous literacies have been freshly defined. 'Digital literacy', 'ICT literacy', 'Legal literacy', 'Health literacy' and 'Cultural literacy' may be cited as examples. This literature review has identified many literacies.

In this backdrop, it is observed that so far there is no characterization of a literacy focusing on personal eyecare, visual impairment, and social inclusion aspectsof people with blindness. Furthermore, having an awareness about these elements is of vital importance for not only from the point of view of maintaining personal eye heath, but also to maintain healthy relationships with those who are blind. Thus, a clear knowledge gap is observed in the disciplines of information and literacy studies, social sciences, and disability studies.

Significance of investigating into this topic aimed at bridging this knowledge gap by charactering ECB literacy, that would result in raising public awareness is wide ranging. The Word Health Organization (WHO) has estimated that there are 2.2 billion persons with visionvision impairment or blindness. WHO also declares that the problems of at least half of them could be prevented or corrected with proper medical, clinical and/or other interventions (WHO, 2021). Another considerable problem observed, particularly in the developing nations like Sri Lanka, is the poor standard of social inclusion of disabled community in general. United Nation's Sustainability Goals (SDG) and Convention on the Rights of Persons with Disabilities (CRPD) deal with such issues (United Nations, 2015). One proven means of addressing such social problems is boosting public awareness on the

topic in question. This could be addressed through enhancing literacy levels of the public in the respective subject area. It is imperative that the relevant 'literacy' is characterized, specifying what the public needs to be informed of, for designing public awareness programs. A parallel could be drawn with respect to the characterization of Information and Communication Technology (ICT) literacy in the first half of year 2000 (Rockman, 2005). This innovation immensely contributed towards raising public awareness of ICT sector, which was relatively a new subject then. It has also triggered developing several education tools such as 'International Computer Driving License (ICDL)'. This new characterization of ECB literacy construct would pave the way not only towards improving the public awareness about this vital topic area but also open-up many areas of study for new researchers.

In summary, purpose of this paper is to establish the need for characterizing a brand-new concept, called EyeCare and Blindness Literacy. Based on a comprehensive literature review, this paper argues that there is a profound need for charactering this literacy construct. Collating and analyzing definitions of a wide range of literacies and the respective domain attributes, this review concludes the respective gap in knowledge. Furthermore, the importance of raising public awareness and understanding about eye health and the need for improving social inclusion of people with visual impairment and blindness is emphasized in this paper. Finally, the key aspects that need to be considered in characterizing this new literacy construct have been identified and proposed that would best be conceptualized as a multidimensional construct.

The next section of this paper presents a comprehensive literature review dealing with definitions of a large number of literacies. A brief description of disability models is

presented as a basis for conceptualizing the proposed ECB literacy. The paper concludes identifying the key areas that would be incorporated in characterizing this new construct with suggestions for future research.

2. Methodology

This article is based on a comprehensive literature review comprising 43 research articles published in a range of journal repositories including, 'Research Gate', 'Google Scholar', 'Wiley Online Library', 'Taylor & Francis', 'Science Direct', 'Emerald Insight', 'Pub Med,' 'SAGE Journals' and 'JSTOR'.

Initially, 160 articles were extracted using a series of key words, and 144 publications were selected for review in the first round. Finally, 43 papers directly relevant for justifying the case for characterizing ECB literacy were revived systematically in this paper. These 43 articles were examined under four broad categories, viz, (a) types of literacies recognized in literature (b) information on vision and eye health (c) understanding visual impairment and blindness, and the social issues of the visually disabled, and (d) the disability models. Accordingly, insights underpinning the conceptualization of ECB literacy construct were derived.

3. Literature Review

A. Meaning of Literacy

The broader meaning of the term 'literacy' is a quite complex and vary by the context within which it is applied and practiced. This complexity, diversity and the context specific nature of the term literacy can be elaborated by examining the definitions of 'ICT literacy' and 'health literacy', as examples.

ICT Literacy: ICT literacy (i.e. Information and Communication Technology literacy) is defined as "using digital technology, communications tools, and/or networks to

access, manage, integrate, evaluate, and create information in order to function in a knowledge society" (Educational Testing Service (ETS), 2002, p. 2).

This construct focuses on awareness of basic concepts of relevant technologies and developing basic skills to operate them to support day-to-day activities of ordinary citizens. This is quite important for people to effectively function in a knowledge society in the 21st century.

Health Literacy: This literacy is defined as: "The development of a level of knowledge, personal skills, and confidence to take action to enhance personal and community health by improving personal lifestyles and living environments". (World Health Organization, 2009, para. 1)

This construct is designed with the view to enhancing the quality of one's personal health and promoting a healthy community. In addition, for being aware and develop skills for maintaining basic aspects of health, strengthening people's confidence on also emphasized in this literacy. The end goal is to improve lifestyle, quality of life of individuals and the health of the community promoting a comfortable and healthy living in harmony with environment.

Having recognized the complexity and the difficulty in composing a simple concise definition of the term 'literacy', a broad-based explanation of this concept has been produced (De Long, 2012). "Literacy is a social construct, a complex idea that means different things to different cultural group at different times. Therefore, literacy is a relative term and dynamic. While literacy is popularly understood to denote the ability to read and write prose and other print texts, it is an integrated complex of language and thinking processes and skills, incorporating a range of habits, attitudes, interests and knowledge,

serving a range of purposes in different contexts” (Rintaningrum, 2009).

This description is also in conformity with the objectives of the contemporary world, where people need to “learn, evaluate, assess and validate economic, environmental, social and technological advancement to produce benefits based on the knowledge society” (Giarini et al., 2010, p. 37). This broad description of the term ‘literacy’ forms the basis for characterizing the ECB literacy construct.

B. Literacies Defined in Literature

Literature of over 20 literacies in a wide range of disciplines and perspectives have been reviewed to ascertain if a literacy covering the perspectives of personal eye health and life of the persons with visual impairment and blindness has already been characterized.

It was revealed that a comprehensively defined literacy construct to cover matters related to eye health, blindness, and social inclusion aspects of the sightless has not been developed. Although the health literacy comes close, it portrays a much wider context relating to overall personal and community health, rather than this specific area related to eye and vision. Furthermore, the social inclusion aspect of this vulnerable community is not at all addressed health literacy. The ‘visual literacy’ was also surfaced, but it deals with matters related to visual art and design. It is reasonable therefore, to conclude that a clear knowledge gap in literacy research exists, not having characterized a literacy to cover this important area.

This review also examined definitions of carefully selected 20 literacies to identify basic elements associated with characterizing literacy constructs and methodologies used. It was observed that all constructs that define literacies are of multidimensional nature. This

finding demonstrates that a range of aspects related to this domain need to be in this endeavor.

C. Eye Care, Blindness and Social Intergration

The proposed literacy deals with a range of closely related areas including human eye, eye care, vision, vision impairments and blindness and how the persons who are sightless, could be reasonably integrated into the mainstream society.

D. Human Eye and Vision

The information seeking and experiencing the world by human beings are almost entirely made through five senses (Rupini & Nandagopal, 2015). Visual modality or sense of sight has been the most dominant of the five sensory modalities; Visual, Auditory, Gustatory, Olfactory and Tactile/haptic memory (Pascolini & Mariotti, 2012). Research show that the vision account for about 80% of the information gathered by people (RNIB, 2016).

Person’s ability to function as a member of the society in the physical living environment can be seriously affected along with changes in his or her vision. Furthermore, such a issues may badly influence toward isolation of the person from the wider community (Schmall, 2000).

The eyes are the principle and the frontline component of the chain or events of the human vision system. (Russ & Neal, 2015). The human eye is clearly one of the most complex, valuable and sensitive sense organs and is reported to be the most developed organ of the body at birth (Willoughby et al., 2010). The proper functioning of the human eye and the vision system is of great importance in many respects (Parker E. Ludwig, Rishita Jessu, 2022) and thus, avoiding visual impairment and blindness through maintaining a satisfactory

level of eyesight is a key health concern (Wilson et al., 2006). Hence, the structure and function of the eye and the issues of vision would become a key potential dimension in defining the ECB literacy.

E. Visual impairment and Blindness

The malfunction of any part of the eye and the human vision system would amount to vision problems, which is collectively referred as 'visual impairment'. Thus, visual impairment is a broad term that describes different degrees of vision loss that heavily influence a person's ability to perform the usual activities for comfortable function in the daily life (FamilyConnect: For Parents of Children Who Are Blind or Visually Impaired, 2021). The levels that a person may experience a vision impairment vary and depends upon a range of factors. WHO presents a standard classification visual discrepancies and blindness detailing attributes of such levels (WHO, 2021). The research paper by Shirzadfar and Amirzadeh (2019) presents a comprehensive collection of information related to issues of eye, vision and the recent developments in visual rehabilitation for people with visual discrepancies. WHO, estimates that at least 2.2 billion people in the World experience near or distance vision impairments. The irony is that such impairment could have been prevented for at least one billion, or half of this population. Moreover, the sight of many such individuals could be improved if properly attended to by medical and other means (World Health Organization, 2021). Thus, eye care and seeking appropriate medical and other timely interventions needs to be given due consideration in defining ECB literacy.

Blindness lies at the extreme end vision impairment. There are different, lesser degrees of impaired vision. It must be noted that every vision problem may not be "corrected" (or

brought back to "normal" vision) with medical interventions or use of optical aids etc.

F. Blindness and Challenges to Life Activities

Blindness is the status at extreme end of vision impairment. There are different, lesser degrees of vision issues as indicated. It must be noted that every vision problem may not be "corrected" (or brought back to "normal" vision) with medical interventions or use of optical aids etc.

Persons with visual impairments and blindness, whose vision could not be brought back, invariably encounter many challenges in leading their lives. These issues include personal mobility, psychological, social and economic concerns (Hutmacher, 2019, Rupini & Nandagopal, 2015). If such a situation is going to be a continuing condition and restricts the activities of everyday life of a person, it is described as a disability. Thus, impairments in vision fall in to the broader term 'Disability' (Australia Government, 2013). In this respect a question arises if any form of 'impairments' amount to 'disability' of a person.

Disability literature refers to several models explaining the matters relate to disability. These models provide insights for understanding and exploring the underlying concepts related to the life of the sightless. The 'religious model', 'medical model', 'social model', 'human rights model' and 'biopsychosocial social model' are such frameworks to name a few (Rerief & Letšosa, 2018). The medical model perceives that a person's challenging conditions are attributed to a physical or other impairments are viewed as a medical problem 'attached to' the individual. With the advancement of thinking behind the concept of disability, around 1960-70 the social model was evolved. According to this model, disability is seen as a socially constructed phenomenon (Schneider et al.,

2012). The biopsychosocial model brought about at a later stage presents a more comprehensive approach that explains the issues as a mix of three main determinants - biological, psychological, and societal. Based on the biopsychosocial model of disability, WHO introduced the International Classification of Functioning, Disability and Health (ICF) model to exhaustively describe the concept of disability (WHO, 2001). Thus, the ICF model could be taken as the guiding framework for identifying the key elements associated with the persons with visual impairment and blindness towards the process of characterizing this ECB literacy construct. This model depicts five main dimensions, namely, (a) body functions and structures (b) activities of people, personal functioning, and activity limitations they experience (c) limitations of the sightless, including experiencing light and dark, seeing, reading and mobility issues (d) participation or involvement of people in all areas of life and the participation restrictions and (e) the environmental factors which affect the person's experiences, and external facilitators and the barriers for life activities (Playford, 2015).

4. Conceptualizing Ecb Literacy Construct

This brief discussion provides background for conceptualization towards characterizing the proposed ECB literacy construct. In summary, the following elements have been brought about in this literature review with respect to characterization of ECB literacy construct: (a) overall aim of this construct is to promote personal eye health, and social inclusion of persons with visual impairment and blindness through spreading awareness and appreciation of related issues. (b) This literacy deals with the knowledge and basic understanding required by the public with respect to eye care as well the people with

visual impairment and blindness. (c) Defining this literacy would promote empowerment of this vulnerable community representing persons with visual impairment and blindness. (d) The public (in particular the sighted people) needs to be familiarized with appropriate behaviors to ease the challenges encountered by persons with visual impairment and blindness (e) Key dimensions of ICF model and eye care and health can be used as a guide to in designing this construct.

5. Suggestions For Future Research

As mentioned in the introduction, the next step in this research project would be characterizing a new construct, 'EyeCare and Blindness Literacy'. Thereafter, a valid and reliable instrument to measure this construct will be developed. Future researchers could work on strategies and programs for augmenting the level of ECB literacy in/of the public.

The overall outcome of such initiatives would lead to improved eye health in society in general, reduce the incidence of visual impairments and blindness in the community and bring about better living standards with improved social inclusion of the sightless.

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Acknowledgment

Authors acknowledge the World Bank assisted AHEAD (Accelerating Higher Education Expansion and Development) Research project on 'Quality of Life and Employability potential of Persons with Visual Impairment and Blindness in Sri Lanka' of the SLIIT Business School, for sponsoring this study financially and supporting in many respects.

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Technical Competency Development Need Analysis for Naval Technicians

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Abstract: *"Type-training" has been the main technical skill enhancement program targeted at naval professionals in many small and medium scale naval forces. Even though these programs draw significant amount of resources, periodically, the level of effectiveness of such programs requires more investigation. The objective of this study is to examine the implications of different training attributes on technical skill competencies. This study develops a survey questionnaire to collect data from 150 respondents in active service, who followed the type-training programs. The investigation shows a linear relationship between the training attributes and technical skill competencies supporting the hypotheses proposed for the study.*

Keywords: *Type-training Programs, technical skills, training success factors, technical competency development*

1. Introduction

Higher operational availability of ships and crafts are the manifestation of the strategy of effective repair/ maintenance carried out for the machinery and equipment onboard. The maintenance always provides required support for all types of industries by keeping equipment and machinery in a reliable working condition. The researchers showed that the maintenance team in an organization is always accountable for the development;

implementation and periodic assessment of effective asset maintenance plan (Smith and Mobley, 2007, p3-25). The successful maintenance requires technical skills, techniques, spares, and the methods for utilizing assets appropriately. Among these, technical skills profoundly affect the maintenance performance as the slightest human error could directly affect the performance of machinery.

The Engineering Directorate of Sri Lanka Navy (SLN) also launches several strategies to inculcate effective repair/ maintenance of ships/crafts and machinery fitted onboard. Among them, the development of a skilled labour force can be considered as one of the key elements implemented to uplift the maintenance standard. In order to achieve this, the Engineering Directorate arranges to conduct several training programs such as basic training programs, on-the-job training, type-training programs, programs for training of instructors etc. Among them, type-training programs are considered as the primary backbone and the most important training type as it directly uplifts/ improves the knowledge of technicians in relation to handling and maintaining a selected type of machinery. By doing so, it is expected to develop vertical specialization of technicians who undertake repairs.

However, it is observed that the skill acquisition of technicians is not in a satisfactory level as for the available records of naval dockyard indicates reoccurrence of same failures within short periods of time and extended repair durations. Further, it is observed that when some technicians who are assigned with repairing tasks fail to complete them successfully, the efficient technicians who are already attending to their tasks have to be further burdened with those incomplete tasks too. Hence, following research questions were raised so as to identify the factors that lead to the successful training of technicians.

- What are the factors that affect the success of type-training programs when improving technical competencies of technicians?
- What are the elements which help in identifying the current levels of technical competencies acquired by technicians, who completed training programs?

Based on the above research questionnaire, following objectives were set for the research study.

- To identify the factors that affect the success of training programs.
- To evaluate current levels of technical competencies of technicians who completed type-training programs.
- To evaluate the relationship between the factors affecting the success of training programs and the current level of technical competencies.

2. Literature Review

The topic "training" is widely discussed and a growing area which has many ranges of arms. Different authors/researchers have defined

training in many ways. For example, training was defined as a planned method for changing an individual's attitude, knowledge, skill, or behavior through learning experience in order to achieve successful performance in a specific task or set of activities (Wilson.,1999). There are two types of training methods, i.e., On-the-Job Training (OJT) and Off-the-Job Training (OFJT). OJT is mostly planned, structured, and implemented at the trainee's workplace itself. The supervisors, managers, trainers, and colleagues spend long periods of time with trainees to teach previously determined skills (Kempton.,(1995). However, OFJT can involve lectures, group discussions, reading, training courses, one-to-one tutorials, and workshops. The type-training programs conducted by SLN can be considered as the most efficient training programs for the technical skill development of its staff, which are fallen into the category of the OFJT.

While conducting type-training programs, many factors involve in the success of a training module. Of these, the consent, interest, involvement, and dedication of the trainees, and the organizational support are key areas for the delivery of a successful training module. Nikandrou *et.al* (2009, p255-270) categorized these training success factors into three categories, i.e., Trainee Characteristics (TC), Training Program Design (TPD), and Organizational Characteristics (OC). These training success factors were deeply studied in the specific study context of this research and identified that these factors can be demonstrated by the indicators shown in Table 1.

Table 1. Operationalization Table for IVs

Training Success Factors	Indicators
Trainee Characteristics	Conscientiousness
	Self-efficacy
	Need for dominance
	Learning goal orientation

Training design	Motivation to learn
	Valence
	Training Content
	Training methods
Organizational characteristics	Competence of trainer
	Superior support
	Peer support
	Opportunity to use
	Feedback

Once the training is successfully completed, the trainees are exposed to the working environment. Still, there should be an evaluation mechanism after the completion of training to ascertain whether trainees have achieved desired expectations of training programs. Kirkpatrick(1959, pp.21-26) introduced four levels of training evaluation criteria during the training process namely reaction, learning, behavior and results respectively. The applicability of these evaluation criteria for the specific study context was studied and it was observed that only the learning and behavior evaluations are applicable to the type-training programs in Naval Dockyard as shown in Table 2.

Table 2. Operationalization Table for DVs

Current levels of competencies	Indicators
Learning (Training Process Performance)	Communication skills
	Technical Skills
	Job Understanding
Behavior (Returned Value)	Trainee's Commitment
	Work Quality
	Effort
	Self Confidence

Training is identified as one of the major solutions that provide organizations to gain higher work performance. Therefore, organizations should provide appropriate tuition fees, salary increments, allowances, and facilities if employees were to be encouraged to gain the required competency levels by following the training programs successfully

(Rosenwald,,2000). The main focus of encouraging employees to follow training programs is to improve the organization's performance in the competitive world. In this regard, it was suggested that organizational performance (e.g., profitability, efficiency, and output) is benefited directly and indirectly by the employee performance (Jehanzeb and Bashir,,2013). However, the provision of training through outside providers incurs higher investments and therefore, many organizations are establishing internal training facilities to improve the technical skills of their employees. By doing so, organizations would be able to develop technical skills specific to the organizational requirements.

Based on the review of literature, following conceptual model was developed to demonstrate the relationships between training success factors and current level of technical competencies. This conceptual framework shows a simple linear relationship between the set of explanatory independent variables and the response (dependent) variable.

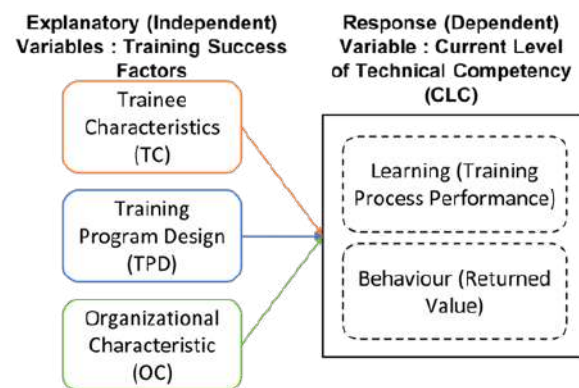


Figure 1. Conceptual Model

Based on above conceptual model, the following hypotheses were proposed.

H1. Trainee characteristics positively related to the development of technical competencies.

H2. Training program design has significant positive effect on the development of technical competencies.

H3. Organizational characteristics have significant positive effect on the development of technical competencies.

3. Methodology

A. Population and Sampling

Naval Dockyard Trincomalee has more than 1200 technicians working in the fields of marine engineering, electrical engineering and shipwright. Of these, there are about 600 marine engineering technicians who were grouped into separate workshops of different strengths of the respective workshops. Of these technicians, about 550 technicians had undergone type-training programs. The sample of the study was 150 marine engineering technicians who have successfully completed type-training programs. Using stratified random sampling method, these technicians were selected representing each workshop.

B. Methods of Data Collection

The study used a survey questionnaire to collect primary data. There were two sets of questions to represent independent variables and dependent variables, which were on Likert scale where 1 denoted strongly disagree and 5 denoted strongly agree.

4. Results And Findings

The accuracy and assessment of the research study are reflected in the reliability calculation, which is regarded as a crucial factor in a research study. Cronbach's Alpha test of reliability is a widely used method for

determining the reliability of scale items. The reliability values calculated for the research study is shown in Table 3. Thereafter, validity assessment was done by circulating the questionnaire among the engineers in naval dockyard and about 83% agreed with the questionnaires prepared.

Table 3. Reliability Statistics

Variable	No of items	Cronbach's Alpha
TC	14	0.985
TPD	7	0.968
OC	6	0.947
CLC	12	0.982

Descriptive statistics were calculated for all items included within independent variables and dependent variable. Tables 4 to 7 provide descriptive for training program design, trainee characteristics, organizational characteristics, and current level of technical competencies.

Table 4. Descriptive statistics for Training Program Design

	N	Mean	Std. Deviation
TPD_TC1	150	4.31	.657
TPD_TC2	150	4.17	.680
TPD_TC3	150	4.47	.598
TPD_TM1	150	4.23	.533
TPD_TM2	150	4.37	.584
TPD_CT1	150	4.17	.599
TPD_CT2	150	4.13	.571
Valid N (listwise)	150		

Table 5. Descriptive statistics for Trainee Characteristics

	N	Mean	Std. Deviation
TC_Co1	150	4.41	.821
TC_Co2	150	3.92	.747
TC_Co3	150	4.22	.623
TC_SE1	150	4.21	.701
TC_SE2	150	4.06	.837
TC_ND1	150	3.85	.893

TC_ND2	150	3.79	.411
TC_ND3	150	3.77	.680
TC_LG01	150	3.70	1.002
TC_LG02	150	3.66	.850
TC_LG03	150	4.11	.860
TC_ML1	150	4.20	.897
TC_ML2	150	3.75	.874
TC_Va1	150	3.91	.810
Valid N (listwise)	150		

Table 6. Descriptive statistics for Organizational Characteristics

	N	Mean	Std. Deviation
OC_SS1	150	4.02	.670
OC_SS2	150	4.42	.495
OC_PS1	150	4.23	.424
OC_OU1	150	4.21	.701
OC_OU2	150	3.75	.874
C_FB1	150	4.11	.799
OC_FB2	150	4.06	.837
Valid N (listwise)	150		

Table 7. Descriptive statistics for Current Level of Technical Competencies

	N	Mean	Std. Deviation
CLC_1	150	3.85	.893
CLC_2	150	3.77	.680
CLC_3	150	3.70	1.002
CLC_4	150	3.66	.850
CLC_5	150	4.11	.860
CLC_6	150	4.20	.897
CLC_7	150	3.75	.874
CLC_8	150	3.91	.810
CLC_9	150	4.31	.657
CLC_10	150	4.17	.680
CLC_11	150	4.47	.598
CLC_12	150	4.23	.533
Valid N (listwise)	150		

The violin plots created for each combined variable of the IVs are given in Figure 2. The means and standard deviations of the variables are shown in Figure 3.

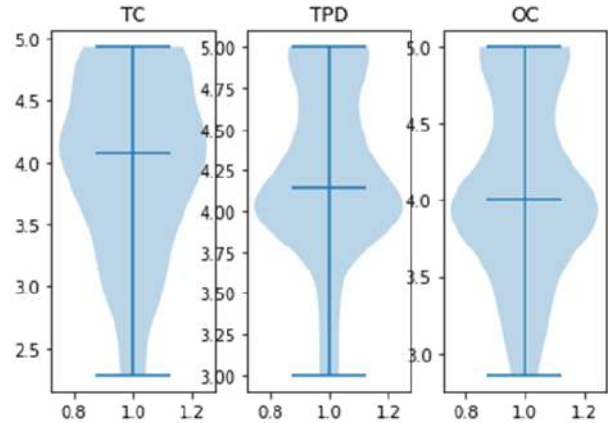


Figure 2. Violin plots of IVs

The above violin plots show distribution of IVs around their median values. TPD and OC show a similar elongation of data.

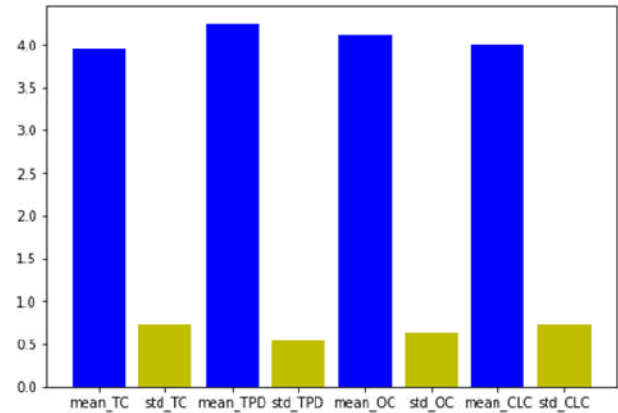


Figure 3. Summary of descriptive statistics
When evaluating the descriptive statistics related to the trainee characteristics, lowest mean and highest standard deviation denoted that the respondents were not enthusiastic and interested on the learning or following type training programs. Hence, following concerns can be highlighted.

- a. Technicians were not so keen to discuss the subject matters with

counterparts/ peers as most respondents have indicated values below 4 for the questions raised in the TC_ND1 to TC_LGO2.

b. The mean values for TC_ML2 denote that the technicians are not that enthusiastic in clarifying their doubts and encouraging their lecturers while the lectures are being held or in any practical training sessions as well.

When evaluating statistics on training program design, it was observed that many respondents agreed with the method of conducting training programs as mean and the standard deviation related to these are of high value and lesser gap respectively. Further, they have indicated about the quality of trainers and their talents in a very positive manner. When statistics related to the organizational characteristics were observed, it revealed that all the trainees were happy with the support from the organization and the facilities provided during the training program. However, there was minor degraded feedback about the limitations and restrictions on the working environment. One of the reasons came out was the use and availability of tools and equipment when they were attached to respective workshops after their training. It is also revealed that senior technicians are reluctant to make tools and equipment available for the newcomers to apply the skills learnt during the training programs assuming that the newcomers may damage these due to their less exposure with compared to the seniors themselves.

Further, when analyzing the responses of current level of technical competencies, it was observed that most of the mean values are below 4.00 and have the highest standard deviations. Hence, it shows a clear doubt about the self-confidence of technicians about their competencies even after following type training program.

On the completion of descriptive analysis, the multivariate data analysis was conducted. The correlation analysis (Pearson Correlation) was used to evaluate the relationships between variables. The correlation plot for IVs versus DVs is shown in Figure 4.

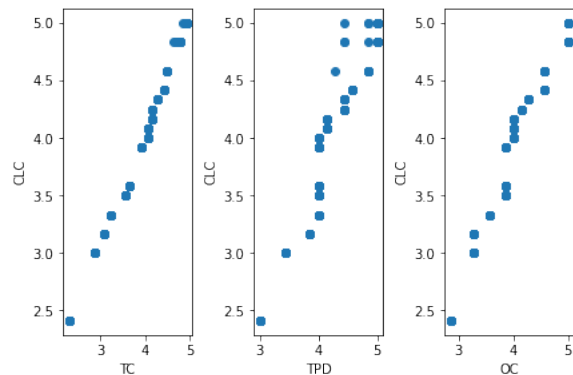


Figure 4. Correlation plot

The above plots show a positive correlation between each IV and DV.

The hypothesis testing was carried out using regression analysis. A linear regression model was implemented using SPSS Version 22. The summary of regression analysis is given in Table 8 and Table 9.

Table 8. Summary of regression analysis

IV	R ²	F	Sig. of F	Beta	t	Sig. of t
TC	0.99	14974.35	0.000	0.995	122.37	0.000
TPD	0.913	1556.22	0.000	0.956	39.44	0.000
OC	0.957	3280.89	0.000	0.978	57.27	0.000

Table 9. Summary of coefficients table

Model	Un-stand. Coefficients		Stand. Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.201	.051		-3.917	.000
TC_MEAN	.791	.031	.796	25.580	.000
TPD_MEAN	.132	.035	.098	3.820	.000
OC_MEAN	.125	.042	.109	2.987	.003
Dependent Variable: CLC_MEAN					

Based on the results shown in Tables 8 and 9, all the hypotheses were accepted, and results support the positive relationship all IVs have with the DVs. The relationship shown in the following equation could be developed based on the data.

$$CLC = -0.201 + (0.791 * TC) + (0.132 * TPD) + (0.125 * OC) + MSE$$

The mean square error (MSE) amounts to 0.2105. Residual plot for DV is shown in Figure 5.

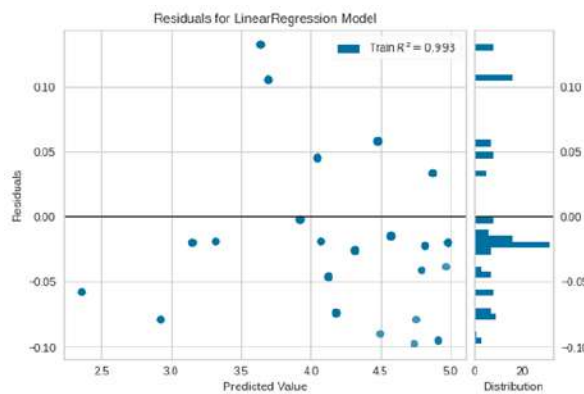


Figure 5. Residual plot for DV

5. Conclusion

This research helped to identify important factors related to the success of training where in house training is conducted. The training success factors which were identified under three categories have the positive effect on the competency of technicians. As presented in Table 1, conscientiousness, self-efficacy, need for dominance, learning goal orientation, motivation to learn and the valence were used to measure the trainee characteristics. The training program design was measured using training content, training methods and competence of trainers, which directly influence of success of the training. The organizational characteristics incorporated factors of supervisor support, peer support, opportunity to use, and the feedback.

The research evaluated the level of skill achievement using learning and behaviour changes as showed in Table 2. When understanding this subject, it was observed that Kirkpatrick model is mostly appropriate for training evaluation and there were many researchers followed the same model and developed many alternative models. The original model incorporates with the reaction criteria, learning criteria, behaviour criteria and results criteria. Another successful research suggested that the communications skills, technical skills, job understanding, trainee's commitment, work quality, effort and self confidence can also be considered in evaluating the success of training (Yusof and Fauzi, 2013, p.1275-1280). Hence, the researcher amalgamated these two models as shown in Table 2.

The findings imply the need of trainees having an awareness of the type-training program before the commencement of the same. This will allow trainees to understand the need for training from the organisational point of view. Rewards will benefit trainees in motivating trainees to follow type-training programs. Further, it is essential to have appropriate evaluating criteria that make the trainees to work hard to gain given qualifications. It can also expect that a higher level of evaluation criteria will make trainees more interested in the chosen type-training program and become dedicated to continuously learn the given subject matter.

Overall, this paper highlighted the factors for successful type-training programs and its implications for the skill development. The paper also highlighted the importance of the evaluation of training outcomes.

Concerning future research, organizations could conduct training programs targeting products and services offered or the financial growth. The engineering directorate of SLN

could also conduct type-training programs by selecting most eligible technicians for respective trainings' within the Naval Dockyard to support of higher skills achievement of the naval fleet. Further, it is possible to assess the skills of technicians based on their educational background and the same could be applied at the time of recruitment.

London

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Investigating Resistance to COVID-19 Vaccines and its Underlying Causes: A Descriptive Study of Young Adults in Sri Lanka

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Abstract: The coronavirus disease has posed a significant threat all over the world. Vaccination has been identified as the most effective and safest solution to recover from the pandemic. However, vaccine hesitancy stands out as the foremost barrier to global vaccination coverage. The purpose of this study is to explore the prevalence of the COVID-19 vaccine hesitancy among young adults in Sri Lanka. This research was carried out as a quantitative cross-sectional survey, which is majorly based on five districts in Sri Lanka. An online questionnaire collected data from 601 young adults aged 15 to 35 years, who were selected through crowdsourcing and a simple random sampling technique. According to descriptive statistics, COVID-19 vaccine hesitancy has gradually increased over three phases of hesitancy: initial doses (37%), booster doses (59%), and response to future vaccination (60%). Females, married respondents, and Sinopharm recipients were the most hesitant, with side effects and allergy issues being the most common concerns. In terms of vaccine awareness, the majority show less awareness, owing to their increased exposure to social media information (60%). Furthermore, 34% of respondents, the vaccine was prescribed because it was mandated by a third party. Besides This study provided extensive information about the COVID-19 immunization program and its impact on vaccine hesitancy and refusal. The study's findings are concerning, and stakeholders must consider the identified gaps in order to execute mitigation plans in future vaccination programs.

Keywords: COVID-19, Hesitancy, Young adults

1. Introduction

The COVID-19 pandemic has turned the world upside-down, which has negatively impacted almost every sector and every corner of the world. As a huge step forward in our global effort to end the pandemic, vaccination has been identified as the most protective and safe measure to protect against COVID-19 disease. However, around COVID-19 infection as well as with regard to other infectious diseases, there are concerns that vaccine hesitancy may be a barrier to the rapid roll-out of a new vaccine.

Due to the rapid increase in COVID-19 cases in Sri Lanka, the government has prioritized the vaccination program against the virus that causes COVID-19 in response to the current pandemic. Although the government has made significant progress toward the vaccination program in Sri Lanka, there has been a spread of various types of perceptions and concerns about receiving COVID-19 vaccines in different social groups. Misinformation and myths about novel vaccines emerge to be severely influencing most people into hesitating against vaccination. It has created negative perceptions and attitudes toward the COVID-19 vaccine among Sri Lankans, which has led to lower vaccination acceptance. In particular, the Sri Lankan government has identified the young vaccine-eligible population as a high hesitancy group compared to the other priority

groups for vaccination. Based on the current critical challenge of COVID-19 vaccination hesitancy among the vaccine-eligible youth population, this research was employed to explore the prevalence of the COVID-19 vaccine hesitancy among young adults in Sri Lanka. Furthermore, current research evaluated various factors that have significant associations with a perception of COVID-19 vaccination namely: attitudes and knowledge about vaccination as well as the role of information sources towards the COVID-19 vaccine hesitancy.

An exhaustive literature review revealed that immunization hesitation has been a complex public concern in Sri Lanka as well as in numerous nations around the world. There are a significant number of studies in the world that have been done to distinguish various types of public perceptions toward a vaccine against COVID-19. This study will provide a novel contribution to the current unique range access literature by exploring vaccine hesitancy along with subsequent vaccine doses and vaccine brand preference in exceptional reference to the youth population in Sri Lanka.

This study will provide valuable insights to policymakers and health authorities to restructure inoculation systems. That will have a positive impact on achieving sufficient vaccine coverage by improving communication transparency about the different types of currently available COVID-19 vaccines in Sri Lanka. According to the understanding of the authors, this sort of exploratory study is lacking in the Sri Lankan context. As a timely assessment, it is imperative to explore the prevalence of COVID-19 vaccine hesitancy in Sri Lanka, which would be critical at this time.

2. Methodology And Experimental Design

This study was conducted as an online descriptive survey among young adults aged 15 to 35 living in Sri Lanka, with a focus on the most densely populated districts of Kurunegala, Colombo, Gampaha, Kandy, and Galle. The cross-sectional survey was conducted in the period from March to May 2022. The crowdsourcing sampling technique and simple random sampling technique are used to distribute the online questionnaire via social media platforms (WhatsApp, Facebook, and Telegram). Primary recruitment was conducted through targeted social media groups and final recruitment was employed by utilizing a simple random sampling technique to create an unbiased representation of the sample. The minimum sample size for this study was 601, calculated with a 95% confidence interval at a 4% margin error.

The self-administrative and semi-structured questionnaires were aligned based on prior studies and surveys. Mainly COVID-19 hesitancy was assessed utilizing establish questionnaires by Caribbean Development Research Services Inc (CADRES) with the agreement of UNICEF and USAID (UNISEF, 2021). The authors modified the questionnaire to align with the current study objectives and Sri Lankan context. The questionnaire covered the main three sections, including socio-demographic characteristics, vaccine-related information, and knowledge about COVID-19 vaccines. Data analysis was performed using excel and IBM SPSS Statistics Version 24. Descriptive analyses were primarily used to examine the results of research variables which were presented as frequencies and percentages. The study measured vaccine hesitancy for three phases of vaccination, namely: vaccine hesitancy for initial doses, vaccine hesitancy for booster doses, and future

COVID-19 vaccines related to the dependent variable.

3. Results

A. Background characteristics of the study sample

The results of the study encounter 601 responses gathered between March to May 2022. The current survey has assessed six different types of socio-demographic variables, which are age, gender, marital status, religion, education level, and geographical location of respondents. The total number of respondents is categorized into four main age categories as age 15-19, 20-24, 25-29, and 30-35. The highest number of participants represented the 20-24-year age category which is 52.28%. The gender distribution consists of 50.92% as male and 49.08% as female.

A high proportion (80%) of respondents including the unmarried category, and nearly two-thirds of participants (427, 71.05%) were Buddhist in religion. Others incorporated 11.98% of Christians, 6.16% of Muslims, and 10.82% of Hindus.

Current education levels of young adults in Sri Lanka are categorized under five educational levels and the majority are pursuing bachelor's degrees which are 48.59% while the least prevalence of respondents represents Professional Qualifications with a percentage of 12.98%. Among the five districts that were selected for the study, Colombo has the highest elevated portrayal (26.79%) and the other districts, respectively, 17.30% from Gampaha, 21.80% from Kurunegala, 17.97% from Kandy, and 16.14% from Galle.

B. Hesitancy levels of COVID-19 vaccine among young adults in Sri Lanka.

The findings of the qualitative analysis revealed that different types of mental and physical underlying reasons under the fifteen

thematically analyzed themes were behind the COVID-19 vaccine hesitancy among young adults in Sri Lanka.

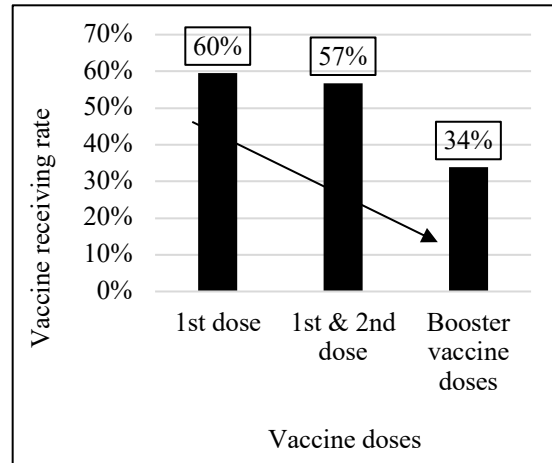


Figure 1. COVID-19 vaccine receiving levels

Source: Based on authors' compilation

Figure 1 demonstrates the COVID-19 vaccine receiving levels among young adults in Sri Lanka. The above chart illustrates the percentage of respondents who have received the COVID-19 vaccine across the three main dosages. According to the figure, 60% of respondents have received at least one dose of any vaccine available in Sri Lanka. Then, 57% of respondents can be identified as fully vaccinated individuals who have received both their 1st and 2nd dose of COVID-19 vaccines.

Figure 2 displays the rate of hesitation for COVID-19 immunizations in each vaccination phase, including initial doses of the COVID-19 vaccine and the booster vaccine stage. As well, as future vaccine perception among the young population in Sri Lanka. During the initial vaccination phase, 63% of the sample had no hesitation about receiving the vaccine, while 37% of the vaccine-eligible sample showed

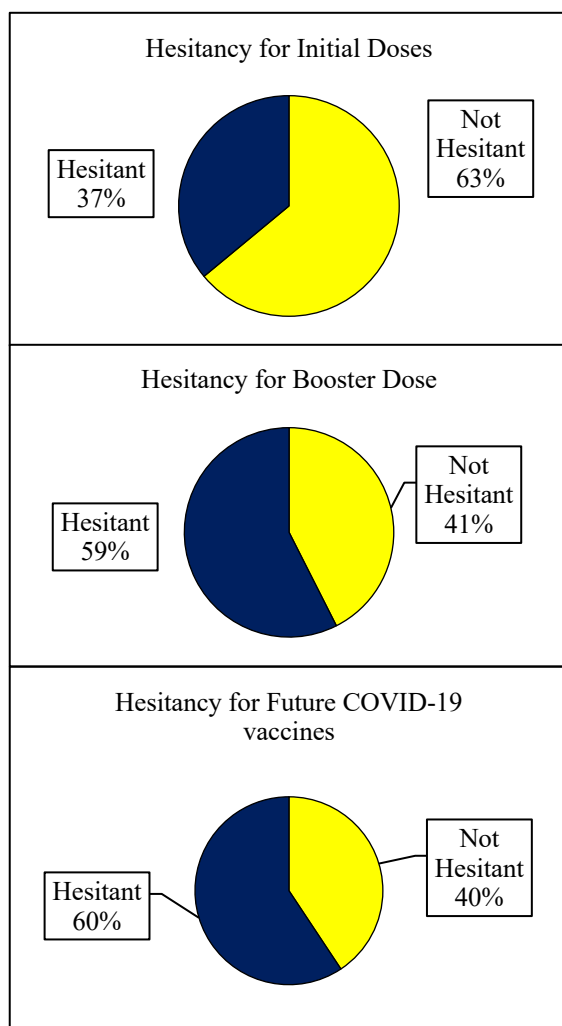


Figure 4 exhibits the concerns that respondents have regarding COVID-19 vaccines. It obviously shows how the respondents reacted to the concerns found in the past literature and its presentation. The highest percentage of concerns are due to side

reluctance towards initial doses of the COVID-19 vaccine. However, when it comes to booster dosages, the percentage of non-hesitant people drops dramatically. The highest proportion of hesitancy was reported in the booster vaccine stage, which is 59%. Furthermore, there is a trend that shows improved reluctance for future vaccines, as shown in the last pie chart, where hesitancy is further raised compared to booster doses discussed.

Figure 2. COVID-19 vaccine hesitancy by dosage

Source: Source: Based on authors' compilation

Figure 3 illustrates the breakdown of vaccine hesitancy based on the vaccine brand received by Sri Lankan young adults. The survey responses indicated that four types of COVID-19 vaccine brands were received by the respondents. As per the results, most of the respondents had received the Sinopharm vaccine with a high prevalence of hesitancy (66%), which represented two-thirds of the proportion compared to other vaccine brands. Furthermore, 24% of Pfizer vaccine recipients were hesitant to receive the vaccine, whereas the Sputnik Vaccine had a lower level of hesitancy, which was only 1%.

effects and allergy issues. It shows a level of 68%. Although the remaining reasons show a tremendous hole of under half, the safety and efficacy issues (33%), misinformation (29%), and concerns with vaccine brand (23%) have managed to be a significant reason for vaccine hesitancy.

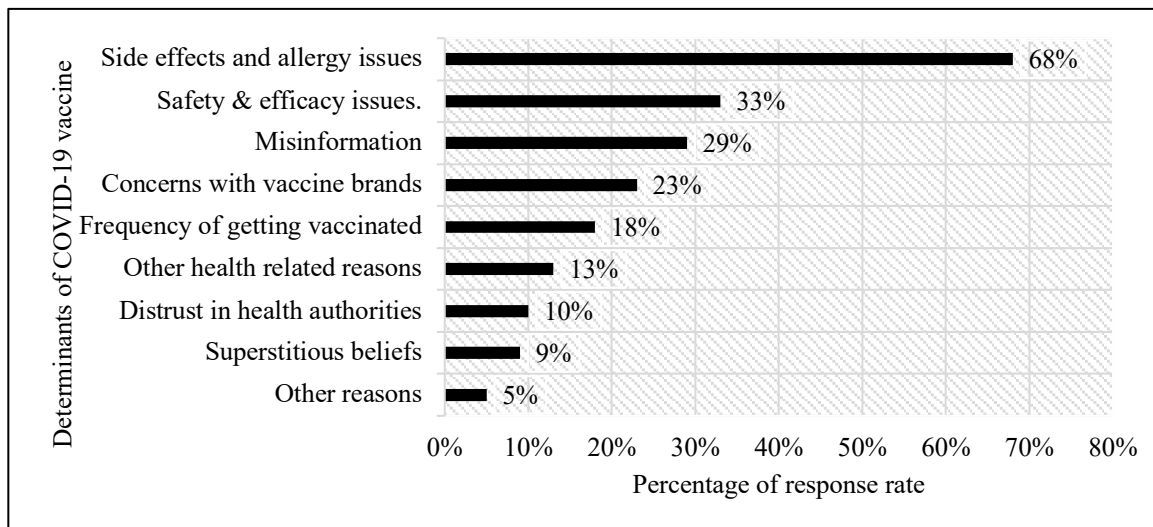


Figure 3. COVID-19 vaccine hesitancy by individual vaccine brand preferences

Source: Source: Based on authors' compilation

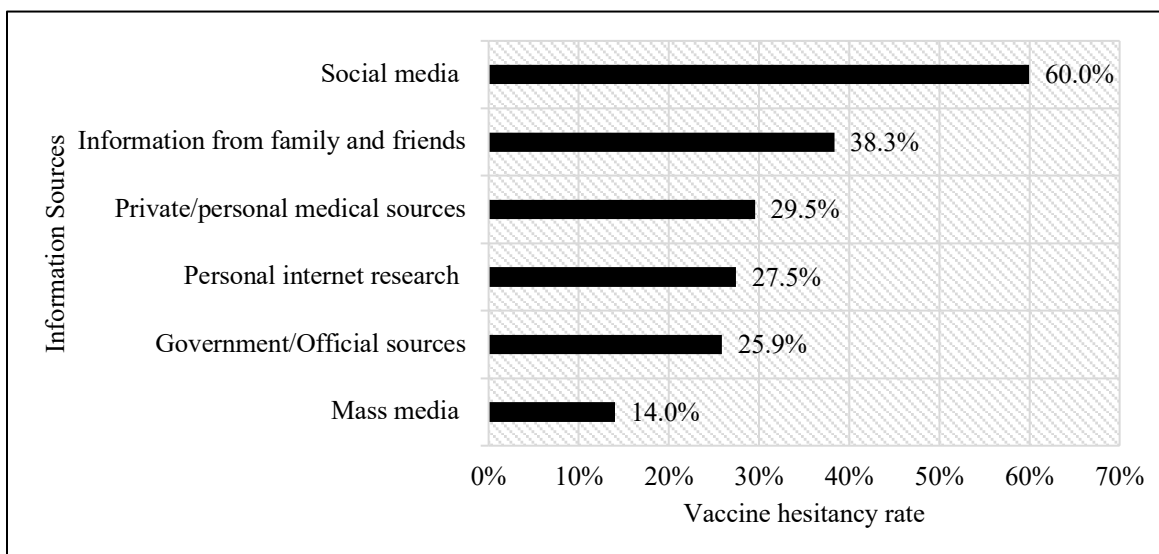


Figure 4. Determinants of COVID-19 vaccine hesitancy

Source: Source: Based on authors' compilation

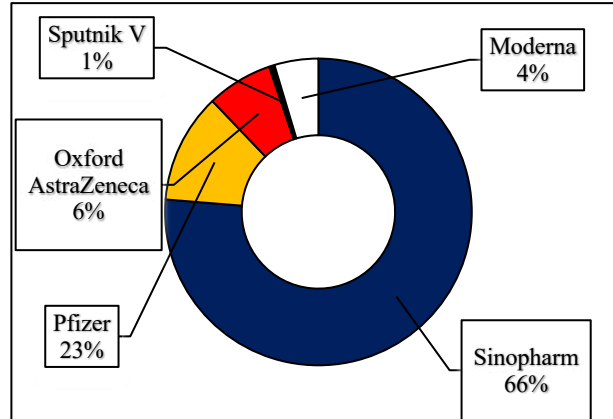


Figure 5. Information sources influenced for COVID-19 vaccine hesitancy

Source: Source: Based on authors' compilation

C. Reasons for COVID-19 vaccine hesitancy and acceptance

Table 1. Factors that changed respondents' minds to be vaccinated

Factors that changed respondents' mind	
It was required from school/university/Place of employment.	34%
I was given more scientific or medical information.	18%
The rapid increase of getting sick/dying from COVID-19.	16%
It was required for me to travel overseas.	11%
It would allow me to access social activities more freely.	10%
It was required by government regulations.	8%
I saw influential people who opposed the vaccine change their decision.	3%

Source: Source: Based on authors' compilation

Table 1 illustrates the factor that changed respondents' minds to be vaccinated among the youth population in Sri Lanka. Additionally, this outcome incorporates the respondents also who were initially hesitant to have

vaccinated but received after for any of the above reasons. According to the findings, the motivation behind why an ever-increasing number of respondents is being immunized is that it has been required in schools, universities, and places of employment. 34% of respondents expressed that reason as their enabling factor for getting vaccinated.

D. Knowledge and attitudes about vaccination

In modern days, there are a plethora of ways that information reaches people. Figure 5 depicts the seven primary information sources from which respondents received information, as well as the percentage change in hesitancy for each source. According to our research, the highest percentage of hesitancy level is shown by the individuals who use social media as their main source of information. Followed by information received by family and friends which is 38.3%.

Figure 6 demonstrates the knowledge and awareness about novel vaccines against coronavirus among younger generations in Sri Lanka. Knowledge about vaccination was measured by the respondent's awareness of the development of the COVID-19 vaccine, its

effectiveness and efficacy, and the impact of the COVID-19 vaccine on the immunization system. Approximately half of the respondents had no proper awareness of the COVID-19

vaccine, while 61% of participants showed a high level of poor awareness about the development of the novel vaccine.

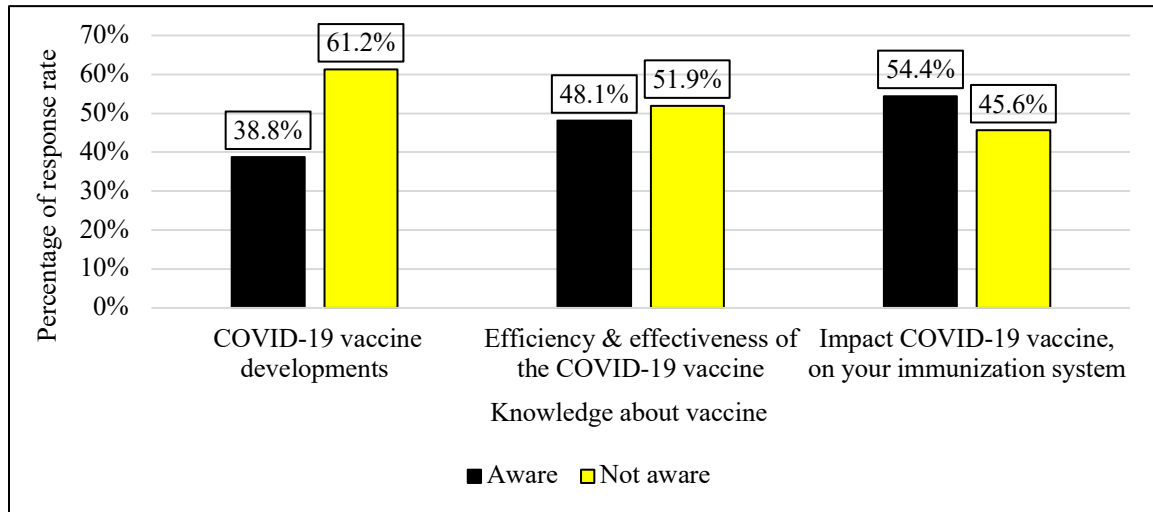


Figure 6. Knowledge & awareness about COVID-19 vaccines

Source: Source: Based on authors' compilation

4. Discussion

Most of the findings that are generated from the study are inextricably linked to previous research, while others were made in opposition to previous findings. The low Coronavirus immunization recognition rate recorded in various countries may pose significant challenges in global efforts to control the current COVID-19 pandemic (Maraqqa et al., 2021).

Vaccine hesitance has been a worldwide worry for quite a long time, and the circumstance is turning out to be more argumentative with the flow of COVID-19 vaccination due to the infodemic and paranoid notions encompassing the infection. Vaccine hesitancy can become under different aspects. Especially South Asian countries encounter different forms of vaccine hesitancies (Hawllader et al., 2022). But,

according to the authors' knowledge, this is the first study that investigates vaccine hesitancy for different doses and evaluates the vaccine hesitancy for upcoming doses for COVID disease. As per the results hesitancy was gradually increased over initial doses, booster doses, and hesitancy for future COVID-19 vaccines.

A special scenario can be identified from those results is respondents showed a low hesitancy level for initial doses and they really wanted to have the vaccine. But the hesitancy has progressively increased as more doses have been prescribed. The frequency of vaccine intake can be attributed to this hesitancy. Therefore, the authors revealed that if it will be available in fourth or fifth doses, Sri Lankan youth might be unvaccinated.

Another aspect of hesitancy is brand preference. It was a highly seeable concern initial stages of the vaccination in Sri Lanka. However, the brand preference severely affected all the COVID immunization programs world widely (Rzymiski et al., 2021). Although brand preference is not available these days, the study explored how people become hesitant about those vaccines based on past brand preferences. Respondents who received Sinopharm revealed a high level of hesitancy (66%) than other brands and it is a great proportion compared to the other brands. Therefore, it can be concluded that the majority of the Sinopharm-received young adults would not have been confident about the vaccine that they had.

Before the presentation of COVID-19 shots in mid-December 2020, generous stresses over the vaccine's safety, viability, and cost were communicated by individuals from varying backgrounds (Fisher et al., 2020). Mainly hesitancy was driven by a bunch of reasons which were revealed by several studies. It was revealed that regardless of the country the reasons for the vaccine hesitancy. According to this study, typically Sri Lankan youngsters' have side effects and allergy issues, safety and efficacy issues, and misinformation regarding vaccination.

When comes to information is the most crucial role of any vaccination program. Because the vaccinated individuals' decisions are entirely based on the accuracy of information (Karabela et al., 2021). Cause of this, the authors paid attention to what sources of information influenced youngsters to be more hesitant. The results revealed that the information received from social media tended to be more hesitant about vaccination. Knowledge is the most critical aspect of taking decisions regarding vaccination. As the underlying driver of hesitancy, it very well may be distinguished, the lack of awareness about

vaccines and understanding of the course of vaccine development (Yan et al., 2021). According to the results, the awareness of vaccines among youth in Sri Lanka is somewhat less (38%, 48%, 54%). Compared to the other South Asian countries it shows some higher value (Mahmud et al., 2021). But some African countries showed high awareness about vaccine development than Sri Lankans (Abebe, Shitu and Mose, 2021).

In any case, regardless of the justification behind this hesitation, the level of getting vaccinated in Sri Lanka was relatively high. The study results also illustrated that 60% of receiving levels for initial doses. It was greater than the study of previous Sri Lankan studies conducted at the end of 2020 (Wijesinghe et al., 2021). Therefore, the study investigated why hesitant respondents were tempted to get the vaccine. According to the respondents' opinion, they tend to receive any COVID-19 vaccine since it was required by any third party. Because the majority stated that they vaccinated cause of requirements made by schools, universities, working places, and government, not only Sri Lanka, but also some African countries showed third-party influence (Abebe, Shitu and Mose, 2021).

The current study has different limitations that should be noted while assessing the outcomes. Regardless, the utilization of an internet-based overview might cause test predisposition, bringing about outcomes that are not generalizable to the overall young population, as confirmed by the shortfall of portrayal from a few territories. From the current study, it had the option to find a great deal that the hesitancy rate is most noteworthy in the young generation.

5. Conclusion

This study assessed the hesitancy of COVID-19 vaccination among young Sri Lankans by considering socio-demographic characteristics

and other factors that account for the vaccine. The main reasons for vaccine refusal are side effects and allergy issues, safety and efficacy issues, and misinformation. Most of the hesitant respondents tend to have been vaccinated cause of requirements made by a third party. The current study induced a novel outcome of vaccine hesitancy by assessing vaccine hesitancy along with three phases of vaccination in Sri Lanka, and the results revealed that reluctance to receive vaccine gradually increased through the initial doses, booster doses, and future COVID vaccines. One of the critical advantages of this exploration project is that it has given a clear understanding of the inspiration for individuals to receive available immunizations as well as the justifications for why unvaccinated individuals have decided to stay unvaccinated. It is imperative to address investigated concerns about the novel COVID-19 vaccine by policymakers, demonstrating clear, evidence-based, and transparent communication to achieve adequate vaccine coverage.

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Acknowledgment

The Authors would like to express their sincere acknowledgment to all the participants who spend their valuable time participating in interviews and contributing to the study

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The Role of High-Performance Work Practices on Employees' Innovative Work Behavior: Evidence from Hospitality Industry in Colombo District

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Abstract: *The purpose of the study is to provide in-depth analysis to enhance the role of high-performance work practices (HPWP) and reveal the association of these practices with employee's innovative work behaviors (EIWP) Hospitality industry in Colombo district. In order to meet this objective, responses were gathered via a Google form survey questionnaire to measure the impact of high-performance work practices on employee innovative work behaviors. These hypotheses were tested with the help of data collected through questionnaire that were filled out by a sample of 307 employees hospitality industry in Colombo district. The data collected from employees verified the proposed hypotheses and suggested that the underlying high-performance work practices have a significant positive impact on employees' innovative work behaviors (IWB). This study is important for enterprise in Sri Lanka that wants to increase knowledge among HR practices and employee about innovative behaviors, their relevance, and their impact on productivity.*

Keywords: *High performance work practices (HPWP), Employee innovative work behavior (EIWB), Selection and recruitment, training and development, reward management and teamwork*

1. Introduction

In the current era of digitalization and globalization, hiring people that are original and innovative is becoming a typical

requirement for service and hospitality organizations (Lu et al., 2020). The hospitality system is experiencing fast change in the twenty-first century. Both the demands of the customer and their contribution to the firm's value creation process are changing. Due to the rapid economic change and increasing competition driven on by these changes, innovation is essential for organizational survival (Bani-Melhem et al., 2018). In the past, research on manufacturing firm product and process innovation has dominated the literature (Li M et al., 2016 as cited in Elidemir et al., 2020). However, the World Bank 2020 service value added estimates that an industry accounts for about 65 percent of global GDP. Despite the quantity of knowledge made available by the expanding popularity of service innovation research. There is scant evidence, according to Storey Chankurtaran et al. (2016), that service companies are enhancing their innovation. Innovative conduct is crucial to the hospitality sector.

Furthermore, the hospitality industry's high job demand and customer-centric nature necessitate employees' creativity in dealing with and managing expectations if the company is to stay competitive in a competitive market. According to Lee (2019, as cited in Elidemir et al., 2020), firms must have creative individuals with the ability to translate information into product and process innovations in order to predict the market and better plan to take advantage. Executives and

experts have observed that soft skills such as employees' innovative behaviors have grown more important than ever before in the 21st century industry, which is pushed by automation led innovation. Innovative behaviors will lead to competitive advantage through less cost and high quality.

Employees' innovative behaviors (EIWB) will help businesses succeed by providing a competitive advantage and cost effectiveness (Meira et al., 2018, as cited in Wijesingha & Arachchi, 2021). EIWB, in particular, enables success in a fast-paced environment by treating employees as valuable assets. Furthermore, originating and executing new ideas can assist organizations in developing distinctive and attractive services for their customers, hence increasing market share and growth through repeat visits. Organizations employ a set of human resource practices to efficiently recruit, select, hire, develop, and retain high performing employees in their workplace to achieve business excellence over competitors in the industry. According to Bos-Nehles et al. (2017), high performance work practices are increasingly being used to assure innovative work behaviors in businesses for survival and competitive advantage. As a result, organizations should employ a set of human resources practices to adjust to the changing environment, enhancing flexibility, efficiency, productivity, performance, and consistent product and service quality (Zhang & Begley, 2011, as cited in Elidemir et al., 2020). In future the hospitality industry can adopt these HPWP practices and EIWB to succeed their job performance.

2. Literature Review and Proposition Development

Organizations must be able to innovate products, services and work processes on a regular basis nowadays. As a result, throughout the past 20 years, there has been

an increase in interest in innovation as a scholarly research issue. The management of innovation at the organizational, workgroup, network and individual basis is the subject on innovation studies (King & Anderson, 2002, as cited in Jeroen & Hartog, 2010). The focus of this study is on individual innovation within corporations. Individual activities play a critical role in sustaining innovation and improvement. Employee behavior is a critical aspect of achieving corporate success and gaining a competitive edge (Ryan et al., 2008). In particular, innovative behaviors has been identified as a distinct characteristic that enables changes in markets and customer expectations (Woods et al., 2018, as cited in Wijesingha & Arachchi, 2021). As a result, many organizations put a priority on empowering employees to engage in innovative work practices to achieve competitive advantage.

High performance work practices cover a broad range of human resources management practices. This could be enabled organizations to attract and retain talent (those with a dept of information, skills, and attitudes, as well as motivation- KSAM to drive business) (Elidemir et al., 2020). The definition of a bundle of practices is that in order to maximize utility, HR practices must be used as a group rather than as individual practices. These practices are intertwined as a result. To get the most out of one practice, we will need to combine it with another. This is often referred to as a high-performance work system, A high commitment HRM, or a high involvement HRM (Appelbaum et al., 2000, as cited in Wijesingha & Arachchi, 2021). Whatever term is used, there is enough theoretical and empirical evidence to support the idea that a collection of HR practices can work more effectively in order to gain competitive edge.

Employees' intelligence, imagination, and creativity contribute to organizational

innovative capacity. It is believed that specialized human resources practices can identify, develop, assess and compensate EIBs (Ramamoorthy et al., 2005; Veenendaal & Bondarouk, 2015). As a result, human resource strategies play a significant role in motivating employees to produce innovative job results (Cooke & Saini, 2010). Previous research has found a link between compensation (Alice & Hon, 2014), training (Dhar, 2015), and employee creativity (Alice & Hon, 2014). HPWPs are predicted to improve EIB. Employees' innovative work behaviors and performance have been found to be affected by these practices (Karatepe, 2013), and employees perceive the existence of HPWPs as an indication of the organization's seriousness and commitment to developing human capital, which is critical for increasing productivity and service capacity (Tang & Tang, 2012). It is argued that HPWPs can boost the JE based on the prior discussion. Based on these findings, we conclude that HPWP will enhance IWB, leading to our first hypothesis:

P₁: There is a relationship between high performance work practices and employees' innovative work behaviors.

Recruitment and selection are critical in any firm since they help to attract competent, talented, and committed employees. Organizations experience difficulties in connection to having a suitable human resource pool and reaching desired profitability, according to Soliman and Spooner (2000), if recruiting is not done appropriately, and so recruitment is at the core of the management process. Organizations consider human capital to be the unique component in being competitive, hence recruitment and selection are considered one of the most crucial operations of an organization (Ntiamoah et al., 2014). Organizational performance is linked to a comprehensive recruitment and selection

strategy (Rauf, 2007, as cited in Senaweera et al., 2020). Organizations were able to fill unfilled positions by adopting a proper recruitment and selection strategy, allowing them to develop. Employee recruitment and selection processes in an organization are linked to the organization's performance (Sarkar & Kumar, 2007, as cited in Senaweera et al., 2020). According to Djabatay (2012, as cited in Senaweera et al., 2020), having the correct employees is a critical aspect in an organization's ability to establish and maintain a competitive advantage. Based on these findings, we conclude that recruitment and selection will enhance IWB, leading to our second hypothesis:

P₂: There is a relationship between recruitment and selection, and employees' innovative work behaviors.

Training and development will demonstrate that the organization values the personnel in question and is willing to invest in them. Employees will assess whether or not the chances for training and personal development are acceptable. Employees will respond to development possibilities with good attitudes toward the organization that gives the development,' according to Benson et al., (2004). Positive attitudes will lead to conduct that is beneficial to both the company and the employee. Employees will feel better prepared to produce new ideas if they perceive training and development opportunities as beneficial and valuable. Shipton et al. (2006) found that, when compared to other HR practices, training had the largest impact on product innovation and technical system innovation. Other studies have found that training and development techniques have a considerable positive impact on IWB (Pratoom & Savatsomboon, 2012). Based on these findings, we conclude that training and development will enhance IWB, leading to our third hypothesis:

P₃: There is a relationship between training and development and employees' innovative work behaviors.

Employees need a powerful indication before they engage in IWB, since they view IWB to be risky conduct that 'needs to be ordered and paid for by the system.' As a result, HR methods that provide financial incentives should encourage people to innovate (Fernandez & Moldogaziev, 2012). Compensation positively promotes IWB, according to the theories underlying social exchange theory, because employees who believe their efforts are being adequately compensated feel obligated to reciprocate with discretionary extra role efforts, such as IWB (Janssen, 2000). The employer's perceptions of remuneration may lead to a sense of obligation to provide the employer with unique knowledge and feedback, as well as new proposals for improvement (Ramamoorthy et al., 2005, as cited in, Nehles & Veenendaal, 2017). Indeed, empirical findings show that a compensation system can have a significant impact on innovative behavior (Bysted & Jespersen, 2014). Based on these findings, we conclude that reward management will enhance IWB, leading to our fourth hypothesis:

P₄: There is a relationship between reward management and employees' innovative work behaviors.

The internal introduction and application within a role, group, or organization of new to the relevant unit of adoption ideas, methods, products, or procedures. This would be aimed to significantly boost role performance, the group, the organization, or the wider society (West, 1989, as cited in Jaewan 2016). However, the work group's members' support is equally essential. Innovation, according to Amabile (1998, as cited in Jaewan 2016), is the process of putting innovative ideas into action. Implementing new ideas in nature requires

significant interactions amongst those involved in the process. As a result, superior teamwork conduct can be a great source of perceived innovation support. When team members engage in innovative tasks that are naturally subject to an interdependent work structure, they are more likely to perceive high levels of organizational support aimed toward organizational innovation. Based on these findings, we conclude that teamwork will enhance IWB, leading to our fourth hypothesis:

P₅: There is a relationship between teamwork and employees' innovative work behaviors.

In the figure 1 conceptual framework, high performance work practices were considered as an independent variable, while employee innovative work behaviors were considered as a dependent variable.

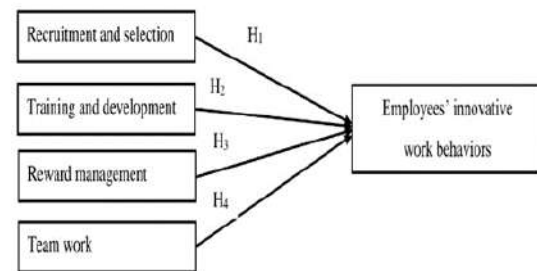


Figure 1. Conceptual framework

Source: Author 2022

3. Methodology

The current study's population is the Colombo district's hospitality industry, the researcher selected employees and employers from the senior/executive level, middle level, lower level, and temporary level of the industry. A total of 307 people responded to the Google form, which was distributed to 342 people. 44% of the employees were men, and 56% of the employees were women worked for hospitality industry. Employees filled out the questionnaire with items related to HPWPs (training, selective, rewards and teamwork),

while managers filled out those with items related to the managers' or employees' perspectives of their creativity and innovative behavior and competitive advantage. A total of 342 valid questionnaire was returned, resulting in an 89.8% response rate. Further this study used questionnaire and analyzed the data through Statistical Packages for Social Science (SPSS).

4. Experimental Design

This research considers as an individual unit of analysis that focus each of respondents' results based on their perspectives by collecting through returned questionnaires. It allows for the creation of hypotheses that can be tested against existing knowledge and typically quantitative method of analysis. The deductive approach, based on the philosophy chosen, is the most appropriate for analyzing, develops a hypothesis. This quantitative research design may use a single data collection technique, such as a questionnaire and corresponding quantitative analytical procedure. So, researcher could use this as a mono method quantitative. The electronic questionnaire technique (emails and WhatsApp) using the Google form was the most appropriate way to gather the data from the respondents. Besides factor analysis, the information collected for the study has been processed and analyzed with the help of appropriate statistical tools like mean, standard deviation and frequency distribution (Tull & Hawkins, 1993). Further, the ANOVA test has been used to assets the difference among group means. Additionally, Regression Analysis has been used to study the role of high-performance work practices on employees' innovative work behaviors.

5. Results

Descriptive statistics regarding innovative work behavior, high performance work practices, and its dimensions are presented. As can be observed, all mean value findings are

more than 4, which suggests a stronger link between the variable's internal variables. The six items in the table above will have values ranging from 0.46001 to 0.52840. The variables' standard deviations ranged from -3 to +3, which shows that they had acceptable values. The skewness and kurtosis of these selection and recruitment, training and development, reward management teamwork and innovative work behaviors are stated in this table between -3 and +3. As a result, the researcher can conclude that HPWP and IEWB are related.

Table 1. Reliability statistics (Cronbach's Coefficient Alpha Values)

Variable	No of items	Cronbach's Alpha
Selection and recruitment	4	0.868
Training and development	6	0.921
Reward management	5	0.918
Team management	5	0.921
Employees' innovative work behavior	13	0.965

Source: Author 2022

We can draw the conclusion that all the study's items are reliable and consistent. When the scale is between 0 and 1, Nareeman & Hassan (2013) argue that Cronbach's Alpha of 0.7 and above is acceptable. According to the conventional view, Cronbach's alpha values of 0.70 and above are favorable, 0.80 and above are superior, and 0.90 and above are the best. These high-performance work practices and employees' innovative work behaviors provide the researcher with the highest level of reliability.

Table 2. Validity statistics (Average variance extracted)

Variable	AVE
Selection and recruitment	0.679
Training and development	0.745
Reward management	0.768
Team management	0.654
Employees' innovative work behavior	0.742

Source: Author 2022

In order to assure convergent validity (Hair et al., 2014), the average variance extracted (AVE) should be more than 0.5. Average variance extracted (AVE) is a metric for comparing the variation captured by a construct to the variance resulting from measurement error.

Table 3. Coefficients

Selection and recruitment	.100	.000
Training and development	.225	.000
Reward management	.176	.000
Teamwork	.671	.000

Source: Author 2022

The value of P Sig in this diagram is 0.000. The value given is 0.05. The given value exceeds the P sig value (0.000) (accept alternative hypotheses and reject null hypotheses). So, researchers have enough evidence to say that recruitment and selection, training and development, reward management and teamwork has an impact on EIWB at a 95% confidence level. It also shows that all of these Beta coefficients is positive results. So, we have enough evidence to say that the recruitment and selection, training and development, reward management and teamwork has a positive impact on EIWB at a 95% confidence level

Table 4. Hypothesis testing

Hypothesis	Beta value	Sig value	Accept/Reject
H ₁ : There is an impact of High-performance work practices on employees' innovative work behavior with reference to hospitality industry in Colombo district.	.928	.000	Accept
H ₁ : There is an impact of selection and recruitment on employees' innovative work behavior with reference to hospitality industry in Colombo district	.805	.000	Accept
H ₁ : There is an impact of training and development on employees' innovative work behavior with reference to hospitality industry in Colombo district.	.894	.000	Accept
H ₁ : There is an impact of reward management on employees' innovative work behavior with reference to hospitality industry in Colombo district	.892	.000	Accept
H ₁ : There is an impact of teamwork on employees' innovative work behavior with reference to hospitality industry in Colombo district.	.943	.000	Accept

6. Discussion

The goal of this study was to look into the impact of HR practices and concepts on individual workers' innovative behavior. By examining the direct influence of two perceived human resource practices on innovative work behavior, we have gathered a huge understanding of the effects that human resource (HR) practices have on employees' innovation capacity (IWB). The findings of the tested following back up the findings of "Bednall et al. (2014)," who concluded that greater employees' perceptions of HPWS are related to their IB.

Furthermore, according to the current study, employees are highly motivated and use that motivation to generate new ideas for improving service quality, show innovative behavior at work, and commit maximum effort to delivering unique solutions to customer problems. Finally, the findings point to a positive relationship between HPWPs and EWBs. In the presence of HPWPs, IWB believe that their current organization meets all of their human resource demands and that they are well-suited to their jobs and organizational culture. In such a setting, it's unlikely that they'll move without sacrificing the possibilities and rewards supplied by service organizations, and instead focus their efforts on demonstrating new behaviors.

Innovative behaviors in the hospitality industry result in significant revenues, competitive advantages, survival, and increased market share. As a result, businesses and managers would benefit from encouraging innovative workplace activities. To produce new ideas in the hospitality business, organizations should discover high-performance work practices that support innovative behaviors. Managers should also determine which behaviors promote IWBs; for

example, financial rewards are beneficial, whereas non-financial rewards are beneficial. As a result, companies should take caution when implementing HPWPs to improve IWBs. In addition, firms should choose skilled people with the correct personality attributes to support innovative abilities. Managers should select applicants with openness and conscientiousness attributes while hiring candidates for organizations.

Training and development programs should be prioritized by hotel management. Employees are provided with the necessary, knowledge, and abilities as a result of the training programs, allowing them to effectively cope with present and future consumer needs. Because kindness has been identified as the most important hospitality dimension, managers should train these front-line employees in dealing with customers with respect and quickly resolving their problems (Nameghi & Ariffin, 2013). According to our findings, employees who are supported by their line managers are more likely to engage in innovative activity. The findings emphasize the importance of line managers at all levels in encouraging employees to be creative. Line managers must not only give vital knowledge with employees in order to train them and allow them to be creative and innovative, but they must also support and appreciate their employees' initiative and innovative efforts in trying something new or different. That is, HR practices should facilitate training activities that assist employees in working in groups (oriented to the development of abilities), systems that allow employees to participate in the firm's decision-making processes, performance appraisal systems that encourage risk-taking and knowledge sharing, and reward systems that include team results. In order to support innovation, HR practices that contribute to the formation of an open communication environment with shared

values oriented to innovation should be implemented.

7. Directions for Future Research

Despite the fact that the current study adds to the existing body of information, there are a few limitations, as described above, that lead to future research opportunities.

Only the Western hospitality industry was evaluated in this study. That does not result in generalizable results. Future researchers can focus on a long-term study with a variety of hotels. The data coverage of this study is limited due to the limits of the research approach, and different industries and firm types may have varied implications on measurement and analysis outcomes. As a result, the study's conclusion has a limited application scope. The selection and range of samples in subsequent investigations can be further diversified and expanded.

It is also necessary to conduct additional study in order to incorporate more variables. Constructs connected to contextual and group variables, for example. Culture and climate could be taken into account when examining the relationship between employee views of HPWS and IB, as these variables may have an impact on employees' working environments as well as HPWS implementation. In addition, various attitudes and behaviors (such as job satisfaction or organizational citizenship behavior) that may influence IB must be considered. Furthermore, further efforts at the individual level should be made, covering other essential components of knowledge management such as absorptive capacity, information sharing amongst teams, and knowledge sharing with external actors. Moreover, including other potential HPWPs into the conceptual model, such as career prospects, selective staffing, and job security, may bring useful insights to both the literature and hospitality managers.

The model used in this study mainly focuses on the individual level, with the research variable being the system viewpoint on high-performance work systems, without taking into account the specific impact mechanisms of various practical activities. Follow-up studies can be undertaken independently for each practice activity, depending on the research goals, and the significance and importance of a high-performance work system in the organization can be described in depth.

8. Conclusion

Human resources, as a vital component of every organization's success, must be adequately structured and treated by management. To put it another way, any organization requires a proper HPWS in order to improve organizational performance, which is mostly exhibited by organizational commitment. HPWS, or the right set of HR practices, always fosters corporate commitment. HPWS, on the other hand, must be powerful in terms of both content and execution. Workplace innovation is a critical component of corporate productivity, performance, competitive advantage, and employer brand. Employees are the most important aspect in establishing an innovation within a company. As a result, businesses adopt a set of human resource techniques to foster creative employee behavior at work. The goal of this research was to figure out what influence HPWP and personality qualities have in IWBs. The study's findings demonstrate that HPWPs have a positive relationship with hospitality's innovative practices. Furthermore, HPWPs like recruitment and selection, training and development, reward management, and teamwork to be more innovative. Although HPWP is an excellent predictor of IWBs, researchers should focus on determining the most effective human resource practices for promoting innovative work behaviors.

Acknowledgment

The success and outcome of this research required a lot of guidances from many people. I am extremely fortunate to have got this all along with the completion of my research work. Whatever I have done is only due to such guidance and I would not forget to thank them. First and foremost, I would like to express my special grateful thanks to my research supervisor and module lecturer in the faculty of management, Horizon Campus about the guidance, and encouragement; also her advices were very valuable for completed this study. She provided usefull information, knowledgeand timely guidance about research. Then I am heartily thankful to Dean of the Faculty of Management for the continuous support and encouragement. I wold like to express my gratitude to all of those who supported me by shared information for the study in any respect during the completion of this research. And also I would like to thank all of my friends who helped me to carry out this research and gave me their encouragment and thoughtful comments. Finally, special thank goes to my family members, who instilled in me the value of hard work and a good education and have always believed me. And I am extremely grateful to them for providing such nice support and guidance.

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Factors Affecting the Success of Rural Marketing in Sri Lanka; Special Reference to Small Electric Appliances

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Abstract: Rural markets can be identified as an underutilized market opportunity that can be capitalized through better marketing strategies. Rural marketing is a marketing strategy which involves planning and implementing marketing functions in rural areas, to attain marketing objectives. Sri Lanka consists of many rural areas and hence the intention of this study is to identify the factors affecting the success of rural marketing in Sri Lanka, with special reference to small electric appliances. When developing the research, the 4As model was identified as the theoretical model. 4As model is customer centric, while 4Ps is an organization-oriented model. Thus, this research is based on the consumer point of view. The primary objective of this research is to identify the factors affecting the success of rural marketing in Sri Lanka and to identify the most influential factor out of all, in the same context. Primary data was collected using a survey questionnaire which was finalized, following a pilot test based on a sample 16 rural consumers. The data for the final survey was collected from 125 rural consumers living in the Monaragala district via web-based questionnaires and the gathered data was analysed using the SPSS 25.0 software. According to the results of the multiple regression analysis, affordability was identified as the only factor which significantly affects the success of rural marketing. Therefore, it was concluded empirically that affordability plays a vital role in rural marketing in Sri Lanka.

Keywords: Rural Marketing, 4As Model.

1. Introduction

A. Background of the study

“The future lies with companies who see the poor as their customers.”

— C K Prahalad The concept of rural marketing is the promotion of a company's product in rural

areas using different strategies, than those used in the urban market. The rural marketing framework aims to provide the right products, use the most effective promotion methods, use the most appropriate distribution methods, and build a long-term relationship with the customer to market the product.

In recent times, it can be observed that sellers have recognized the importance of the rural market while the overall growth of the economy has also witnessed a significant increase in the purchasing power of the rural population. Therefore, there is a high potential to develop rural marketing within less tapped rural areas. This marketing concept will be highly beneficial in many aspects, such as the minimization of massive competition that exists within industries in the urban (Kripanithi and Ramachander, 2018). But most rural marketing projects have failed as the

marketers have been found to use urban marketing strategies for rural marketing (Kripanithi and Ramachander, 2018).

According to Central Bank reports, housing conditioning and ownership of durable goods in the rural sector remains lower than that of the urban sector, even though 77.4% of Sri Lanka's population reside in rural areas (Economic and social statistics of Sri Lanka, 2019). Rural consumers differ from urban consumers. Therefore, it is required to design specific strategies for rural consumers to successfully implement rural marketing. For that purpose, this research will provide knowledge about rural marketing in Sri Lanka not only for the marketers of durable goods industry but also to the entrepreneurs who would like to market their product all around the country.

This study focuses on identifying the factors affecting the success of rural marketing of small domestic electric appliances based on the 4As model. The factors are identified through the 4As model i.e., affordability, awareness, acceptability, and accessibility (Sheth and Sisodia, 2011) 4As is a consumer centric model. Therefore, companies can develop strategies which cater to rural consumers' requirements. This model of rural marketing drives the efforts of marketers for sustainable growth in rural marketing (Naidu, 2017). Household electric appliances which are key contributors to residential energy consumption can be categorized as a durable good. In general, these appliances are divided into three categories namely, white goods, brown goods and small appliances. However, as aforementioned, the focal area of this study is rural marketing of small electric appliances since those are mostly used by urban people, while also creating significant competition within the industry. Small line appliances are described as those that are needed domestically to carry out small household

activities (Cabeza *et al.*, 2018). Thus, it can be reasonably stated that successful rural marketing could be a big turning point in those industries.

B. Problem statement

Sri Lanka is recognized as a developing country and owing to the presence of many rural areas, there prevails a wide range of untapped markets in these areas. According to Census of Population and Housing (2012), housing conditioning and ownership of durable goods in the rural sector is lower than the urban sector, even though 77.4% of Sri Lanka's population resides in rural areas (*Press release*, 2020). Yet, organizations have no proper marketing strategies specifically targeted for the Sri Lankan rural market and neither can it be implemented successfully with the mindset of the urban market. Compared to consumers in urban areas, rural consumers demonstrate many differences in numerous aspects such as literacy, income level, spending level, nature of employment and attitudes etc. (Kripanithi and Ramachander, 2018). Furthermore, in recent years, the rural market has grown rapidly in terms of demand, size, consumer preferences, lifestyle of rural consumers and income levels. Therefore, it is required to identify the factors which influence the success of rural marketing, from the customers' point of view. On the other hand, there is limited research in Sri Lanka regarding rural marketing practices. Most research do not explain the factors which affect the success of rural marketing. Therefore, this research will identify as to which factors affect the success of rural marketing, based on the consumer centric 4As model.

C. Research objectives

Primary objective

To identify factors affecting the success of rural marketing in Sri Lanka.

Secondary objective

To identify the most influential factor affecting the success of rural marketing in Sri Lanka.

D. Research questions

- I. What are the factors affecting the success of rural marketing in Sri Lanka?
- II. What is the most influential factor that affects the success of rural marketing in Sri Lanka?

E. Significance of the study

It can be reasonably stated that rural marketing is quite an unfamiliar concept for Sri Lanka, compared to other countries in the world like India. Relevant literature reveals that only few studies have been published regarding rural marketing in Sri Lanka. Furthermore, most of those studies haven't adequately studied the success of rural marketing in Sri Lanka, either.

Even though, more than half of the Sri Lankan population resides in rural areas, the level of implementation of this concept for the durable goods industry in Sri Lanka, cannot be treated as satisfactory (*Press release*, 2020). According to Prahalad C. K (2004) "the future lies with companies who see the poor as their customers". Further, nowadays, the tagline of some marketers is "Go Rural" (Kripanithi and Ramachander, 2018). So, for countries like Sri Lanka, rural marketing would prove to be a valuable marketing strategy, given that industries can implement it successfully, thus causing a huge revelation of this industry. Multinational companies such as Unilever and LG have become successful in the rural market with the application of the rural marketing concepts (Kripanithi and Ramachander, 2018). Moreover, rural marketing has the potential to improve and enhance people's lives in rural areas (Bhavika Pandita Hakhroo, 2020).

Therefore, in a Sri Lankan context, it is important to identify what factors may affect the success of rural marketing on small electric appliances. Domestically SEAs are mostly used by urban people while creating significant competition in the marketplace, but it seems that the use of SEAs is low among the rural population (*Press release*, 2020). Accordingly, this research focuses on small electric appliances, to study about the success of rural marketing in Sri Lanka. Findings of this study will help to develop and tailor rural marketing strategies, considering the requirements of the consumer, as these factors are viewed from the consumer's point of view.

2. Methodology

A. Research design

The quantitative research method was adopted in this study. A survey research strategy was followed to gather data from the sample. This study does not generate new theories; hence the research approach of this study is deductive. Mono-method was used as the research choice and quantitative data was collected using questionnaires. While primary data was analysed using suitable techniques, researchers also utilized secondary data. Research philosophy refers to a system of beliefs and important presuppositions about the development of knowledge (Saunders, Lewis and Thornhill, 2009). Philosophy of this research is positivism as the researchers interpreted the collected data in an objective way.

B. Population

According to Saunders et al. (2009), population refers to the full set of cases that the research sample is taken from, and it uses to the total amount of people who are related to the research subject being studied. In this research, rural consumers living in Sri Lanka were considered as the population.

C. Sample

Based on the understanding that the sample size is largely determined by the objectives of the research, what the researchers need to know and what will be reliable (Patton, 2002), a questionnaire was distributed among a sample constituting 125 rural consumers in the Monaragala district. The sample size was determined according to the “Rule of thumb method” and the Monaragala district was selected, as it is one of most rural areas in Sri Lanka. Furthermore, Saunders et al., (2009) states that the convenience sampling method can be used when it is difficult to identify the members of the population. Thus, researchers followed the convenience sampling method under non-probability sampling to gather data for this study.

D. Data collection and analysis

Primary data was collected via a self-administrated structured questionnaire based on a sample of 125 rural consumers. Secondary data was gathered from sources such as journals, books and websites. Researchers used the SPSS 25.0 software for analysing the primary data, by appropriately coding all data. Variables of this research were measured using correlation and multiple regression analysis to identify the impact of independent variables towards the dependent variable. Prior to the analysis, the collected data were screened and purified by conducting tests for normality, linearity, and reliability.

E. Conceptual framework

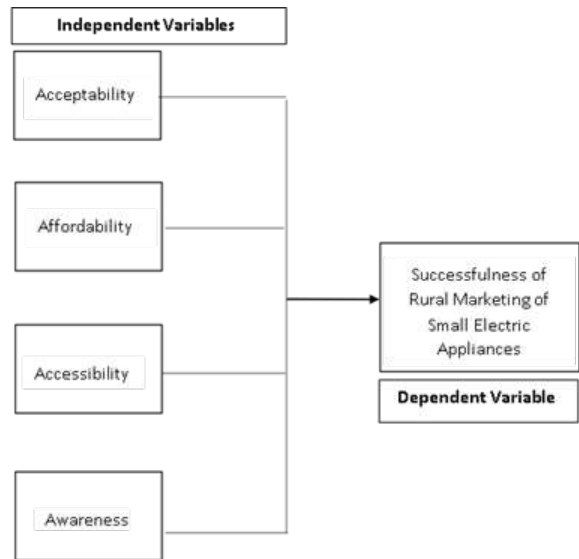


Figure 2.1: Conceptual framework

Source: Authors (2021)

F. Research hypotheses

H1a -There is an impact of consumer perceived acceptability on the success of rural marketing.

H1b -There is an impact of consumer perceived affordability on the success of rural marketing.

H1c -There is an impact of consumer perceived accessibility on the success of rural marketing.

H1d -There is an impact of consumer perceived awareness on the success of rural marketing.

G. Operationalization of the conceptual framework

Table 2.1: Operationalization

Variables	Indicators	Sources	Measurements
Acceptability	Expectation towards features of the product Expectation towards performance of the product Subjective attributes of the product	(Sheth & Sisodia, 2011) (Kripani thi & Ramach ander, 2018)	Five-Point Likert Scale
Affordability	Sufficient economic resources Perception of the value	(Sheth & Sisodia, 2011) (Naidu, 2017)	Five-Point Likert Scale
Accessibility	Supply of the product Easiness in acquiring the product	(Sheth & Sisodia, 2011) (Naidu, 2017)	Five-Point Likert Scale
Awareness	Conventional media Non-conventional media Marketing campaigns	(Kripani thi & Ramach ander, 2018) (Shah & Desai, 2013)	Five-Point Likert Scale
Success of rural marketing of small electric appliances	Purchase intention Recommendation Attitude of customer Financial Worthiness	(Morwitz, 2014) (Jayakrishnan & Kumar, 2015) (Bishnoi, 2007)	Five-Point Likert Scale

Source: Authors (2021)

3. Data Analysis and Discussion

A. Data presentation

1) Introductory question:

Purchase intention Recommendation Attitude of customer financial worthiness

As introductory question researchers asked from respondent Do you know what small electric appliances are? 93.6% of the respondents knew about small electric appliances. 6.4% of the respondents did not have an idea as to what small electric appliances are. However, from responses given to the remaining part of the questionnaire, researchers identified that although the term SEA was not known, the respondents commonly use SEAs for their household activities.

2) Demographic Information of the sample tested:

According to the age of respondents, 53.% of respondents are between the ages 21-30, and 20.8% of respondents are between the ages 31-40 while 25.6% are between 41-50 and above 50.

3) Occupation of the respondents:

Out of 125 respondents, Majority of the respondents are private sector workers and minority of the respondents were found to have no occupation and 13.6% respondents don't belong to any of the occupations mentioned above.

4) Income of the respondents

According to the income of the respondents, most of the respondents have income above Rs.30,000 and 19.2% of respondents have less than Rs.5,000 income. Equal number of respondents have income between Rs.15,001-Rs.20,000 and income between Rs.20,001-Rs.25,000.

5) SEA information

The questionnaire of the study is asked, what are the small electric appliances used by respondent from given list. A majority of the respondents' own blenders, rice cookers and irons. Small electric appliances like knife sharpeners, electric grills, microwave ovens

and mixers are only owned by a small number of respondents. Other small electric appliances used in the questionnaire such as toaster, hair drier, beater, electric water heater, and electric kettle are owned by average number of respondents.

B. Preparation of data for analysis

1) Accuracy and completeness

Data was collected from 150 respondents. However, 25 incomplete responses were removed bringing down the total number of responses to 125. Furthermore, a boxplot analysis was conducted for the purpose of detecting outliers. However, no outliers were identified. Therefore, there was no need to delete any data and 125 responses were considered for further analysis.

2) Missing Data

Missing data is defined as lost values stored for interested observations and variables. It can occur during data collection and in the process of data entry (Hair Jr *et al.*, 2009). According to the missing data analysis, researchers confirmed that there is no missing data for any variable.

C. Testing for parametric assumptions

1) Normality Test

The normally distributed variable should have skewness and kurtosis value which are less than three times of stranded error of their values (Hair Jr *et al.*, 2009). Kurtosis values explains that the variables are normally distributed or not. The accepted skewness value is between -1 and +1, and the accepted value for kurtosis should be between -3 and +3. Researchers checked for skewness and kurtosis to test the normality of variables. Here it is observed that all the coefficients of skewness are between -1 and +1. Therefore, the data are approximately normally distributed. In contrast to kurtosis, all the

absolute values of variables are less than three times of stranded error of kurtosis (Hair Jr *et al.*, 2009). While the visual check based on a histogram, confirmed that the data was normally distributed. Accordingly, it can be deduced that the data are normally distributed (Hair Jr *et al.*, 2009).

2) Linearity

In this study linearity was tested between success of rural marketing and the four independent variables of acceptability, affordability, accessibility, and awareness. The R-Squared value refers to the amount of variation, and it ranges from 0 to 1, with a higher value indicating more variation (Almquist, Ashir and Brännström, 2010). In this study researchers find out values between 0 and 1 indicating higher amount of variation. Therefore, it can be interpreted that all direct relationships show a linear relationship. Furthermore, a scatter-plot analysis was carried out to gain an understanding of whether it is a linear relationship, an independent relationship or if there is no-relationship.

D. Testing for validity and reliability

1) Validity

The term validity refers to whether or not a variable measures what it claims to measure and it is the degree to which the results of a measure accurately reflect the variable for which they were designed (Field, 2009). Validity in this research was ensured in several ways. Scholars have stated that expert validity can be confirmed with the support of experts who can evaluate the refined criteria by offering suggestions and revisions (Yang and Chan, 2008). Accordingly, the researchers provided the questionnaire to their supervisor and confirmed expert validity. As well as researchers carried out correlation test using

SPSS software to measure the construct validity.

2) Reliability

The term reliability refers to a measure's ability to constantly reflect the construct it is measuring. When all other factors are equal, a researcher should receive the same score on a questionnaire if it was completed at two different points in time (Field, 2009). Furthermore, researchers conducted a pilot study by distributing the questionnaire to 16 rural consumers of small electric appliances in the Monaragala district to test the research tools and to ensure the overall representativeness of the questionnaire. According to Hamid et al. (2017) Cronbach's alpha should usually be greater than 0.7 to be interpreted as acceptable reliability. However, Hair et al. (2009) identified even a lower acceptance threshold of 0.6 to 0.7. As a result of reliability test, the study's measures are consistent with the construct that is being measured.

E. Testing for multicollinearity and common method variance

1) Multicollinearity

Multicollinearity is situation when there is an exact or closely exact relationship between two or more predictor variables (Nwakuya and Biu, 2019). The VIF points out whether a variable has a strong relationship with the other variable(s). In this research multiple regression analysis was employed to measure multicollinearity between predictor variables. According to Field (2009), acceptable tolerance levels should be greater than 0.1 and the value of VIF should be less than 10. The 0 level of tolerance is described as perfect multicollinearity. In addition, a tolerance level of 1 indicates that there is no multicollinearity. According to the results all the VIF values are less than 10 and tolerance values are greater

than 0.1. Thus, it can be deduced that there is no multicollinearity between the predictor variables of this study.

2) Common method variance

This is important when both the dependent and explanatory variables are cognitive measures derived from the similar respondent (Podsakoff *et al.*, 2003). Common method variance is a variation that can be attributed to the method of measurement. These results in the Table 4.7 shows that there is no common method bias in the data.

F. Regression analysis

Multiple regression model was used to test relationship between acceptability, affordability, accessibility and awareness with success of rural marketing.

Table 3.1: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.311 ^a	.097	.066	.518	1.756

Source: Authors (2021)

Table 3.1 provides the results of the model summary. The R squared value indicates how much of the variation in the dependent variable is explained by the independent variables' variance. The value should be ideally between 0 and 1 (Almquist, Ashir and Brännström, 2010). R squared value of this study is 0.097 and this explains that acceptability, affordability, accessibility and awareness, only explain 9.7% percent of the variation in success of rural marketing. Even previous studies suggest that in researches related to social sciences, a lower R squared might be obtained due to the potential inability of including all relevant predictors to explain

an outcome variable. Hence the ANOVA result is significant, and the regression model is valid. Durbin-Watson test statistic should be between 1.5 and 2.5 (Taylor and Li, 2008) and in this study it is 1.756. Thus, the regression model can be claimed to be valid, since residuals are predictors.

Table 3.2: ANOVA table

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.439	4	.860	3.205	.015 ^b
	Residual	32.193	120	.268		
	Total	35.632	124			

Source: Authors (2021)

Table 3.2 demonstrates the results of the ANOVA of regression model. Accordingly, F value is equal to 3.205 and the significance value is less than 0.05 at a confidence level of 95%. Therefore, overall regression model is significant. It means the model is appropriate to take the decisions while all independent variables jointly influence the success of rural marketing of SEAs.

Table 3.3: Coefficients table

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	1.834	.574		3.194	.002
	Acceptability (IV1)	.101	.094	.097	1.071	.286
	Affordability (IV2)	.224	.090	.220	2.492	.014
	Accessibility (IV3)	.048	.103	.043	.471	.639
	Awareness (IV4)	.119	.085	.128	1.406	.162

Source: Authors (2021)

The individual effects of acceptability, affordability, accessibility and awareness on success of rural marketing was tested using the results displayed in the above coefficients Table 3.3. to have a linear relationship among the independent variables and the dependent variable, the significance value should take a value lesser than 0.05 ($p < 0.05$) with the confidence level of 95% (Almquist, Ashir and Brainstorm, 2010). Accordingly, as observed in Table 3.3, the p value of acceptability, accessibility and awareness is not less than 0.05 and p value of affordability is less than 0.05. Therefore, it can be concluded that there is no significant impact from acceptability, accessibility, and awareness on the success of rural marketing while there is a significant impact from affordability on the success of rural marketing of SEAs, in a Sri Lankan context.

g. Discussion

The below mentioned objectives of this research as previously mentioned in chapter one, are mentioned again, to lay the foundation of the discussion.

1. To identify factors affecting on the success of rural marketing in Sri Lanka (Primary objective).
2. To identify the most influential factor affecting on the success of rural marketing in Sri Lanka (Secondary objective).

Four hypotheses were formulated to achieve these objectives based on the conceptual framework developed. Accordingly, this chapter disclosed the extent to which the independent variables of acceptability, awareness, affordability, and accessibility have impacted the dependent variable of, success of

rural marketing of small electric appliances. However, the results of this study are interpreted in light of the limitations such as the sample size and nature. Therefore, it is understood in advance that results may contradict the findings of extant research.

In this study, only one factor out of the four factors were found to significantly affect the success of rural marketing of small electric appliances in Sri Lanka. This was confirmed based on the researchers' understanding that significance value is a factor which allows data to occur in a random event, and if not present that the null hypothesis becomes true. The significance level of the coefficient should be less than 0.05 at a confidence level of 95%, for the independent variable to have an impact on the dependent variable (Almquist, Ashir and Brännström, 2010)

4. Conclusion and Recommendations

A. Conclusion

Rural marketing aims to provide the right products, use the most effective promotion methods, use the most appropriate distribution methods, and build a long-term relationship with the customer, to market the product. In the Sri Lankan context, the rural marketing concept is rapidly growing, but the most of organizations often neglect it, because implementing rural marketing is more of a challenge, especially compared to urban marketing. However, these challenges can be translated into opportunities if it's implemented tactfully in the right manner.

Hence, this research aimed to identify factors affecting the success of rural marketing in Sri Lanka and to identify the most influential factor among them from the customer point of view. Therefore, the researchers used the 4As model incorporating acceptability, availability, awareness and affordability as the theoretical model of the research. Researchers used small

electric appliances as special reference to narrow down the research scope. Based on the quantitative data analysis the results indicate Affordability is the only factor and the most influential factor which affects the success of rural marketing in Sri Lanka. The data was collected from Monaragala, one of the most rural areas in Sri Lanka.

Contrasting to extant research, this study empirically demonstrated that affordability is the only significant factor which impacts the success of rural marketing in Sri Lanka. However, this difference can be attributed to the difference in the research samples as most of the extant findings discussed were from research based in India.

According to the empirical findings derived based on the analysis of data collected from the sample, it can be concluded that markets should pay more attention to the price and quality of the product other than conducting marketing campaigns, promoting different brands under the products, high-cost packaging of the products etc. Furthermore, it is understood that the marketers should understand consumer expectations and try to fulfil their needs through offering products and services as per their requirements, instead of capitalizing on urban market strategies even if they have been proven to be successful.

B. Limitation and directions for future research

The empirical findings of this study will have to be interpreted considering certain barriers that can be addressed in future studies. To begin with, the researchers faced a barrier to data collection, due to the pandemic thus limiting the data collection methods to only a web page-based questionnaire. Another limitation was the use of language, due to the questionnaire being drafted in Sinhala to suit the literacy level of the rural community. The lack of research in this area in Sri Lanka was also a limitation in this study since there are

limited Sri Lankan research papers regarding this research topic. Moreover, this research was conducted as a quantitative research and qualitative aspects related to this research problem were not considered, whilst data were gathered only from rural consumers in the Monaragala district. However, a more rounded viewpoint would have been produced, had there been a geographical coverage of respondents with a better representation of the entire Sri Lankan rural consumer population.

Further research could be conducted using qualitative research methods, as well as a mixed-methods study, by collecting data from every rural district in Sri Lanka with a larger sample size. Considering mediator or moderator variables, this study could also be performed with more efficiency. Collecting data from marketers would also be more helpful in deriving better a discussion and conclusion.

C. Recommendations

In this study looked, the affordability of a rural consumer when purchasing a product, was considered in terms of the product price, comparison with their income, availability easy payment methods and the provision of a favourable and reasonable time for payment. Therefore, as a recommendation, it can be stated that rural marketing can be successful if the companies sell quality products within the income level of the rural consumer and within their affordable price range. The reason is that the rural consumers have very low disposable income, which is also seasonal. Therefore, if they are given a reasonable and favourable time to pay for the purchase of the product, they will focus on the fact that they are affordable, as they would like to purchase the product. Also, some concessions can be made if marketing companies coordinate with banks to develop a loan facility system for rural

consumers. Furthermore, selling products at a fair discount would also increase the rural consumers purchase intention towards the product. Considering all this, the concept of marketing in rural areas will be successful by companies selling quality products within affordable prices to rural consumers.

Abbreviations

SEA – Small Electric Appliances

Acknowledgment

We wish to express our deep sense of gratitude to our research supervisor - Mr M. M. L. C. Gunathilake, senior lecturer of the faculty of Management and Finance, for his continued guidance, by committing his valuable time for us, from the very beginning of the research. The critical reviews and helpful suggestions given by him were the most influential factors behind the ultimate success and well-timed completion of this research study. We also pay our sincere gratitude towards our lecturers of the Faculty of Management, Social Sciences and Humanities for guiding us through the module. Special thanks goes to all the respondents who gave their valuable time to complete the questionnaire. Furthermore, we would like to thank our parents and classmates for the invaluable support they extended. Finally, we would like to express our heartfelt thanks to all those who supported us in every way possible to complete our final research project successfully. In conclusion, we'd like to thank everyone who contributed, in any way, even if their names aren't mentioned here. All in all, everyone's contribution will be remembered with a deep sense of gratitude.

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Investigating Occupational Stress & Work from Home Experience of Female University Academics in Sri Lanka: with special reference to Covid-19

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Abstract: The aim of this research is to explore occupational stress and Work From Home (WFH) experience throughout the Covid-19 pandemic of female academicians in Sri Lankan universities. A mixed research method was adopted where, quantitative and qualitative research designs were used. Occupational Stress Index questionnaire (OSI) and in-depth interviews were utilized for data collection purposes. Descriptive statistics, and thematic analysis were employed for analysis. A sample of 348 female university academics from state and non-state universities were selected by using multistage stratified sampling for quantitative objectives. The findings revealed that, most of the female academics from state universities experienced highest level of occupational stress compared to the female academics from non-state universities. Considering stress levels of inexperienced academics, highest level of stress was reported from the state universities, compared to the academics of non-state universities. Moreover, role overload was recorded as the factor that contributed to the highest level of stress among academics while the lowest stress contributing factor was reported to be the powerlessness. Twelve participants those who participated for the survey were randomly chosen for in – depth interviews. Outcomes of the thematic analysis revealed five main themes related to coping mechanism included: physical, cerebral, creative, communal, and psychological activities.

Keywords: occupational stress, work from home experience, female academicians, Covid-19, Sri Lankan universities.

1. Introduction

By the end of March 2020, with the unforeseen arisen of the Covid-19 catastrophe, global governments-imposed restrictions on social mobility to lessen being transmitted of Covid-19 virus among populations (Habaibeh, et al., 2021), thereby, millions of workers must accept the novel alternation of working patterns from physical working settings to virtual backgrounds to keep their careers running (Oakman, et al., 2020). By virtue of the novel working style, numerous industries were affected all around the world, notably, higher educational sector (Arora & Chauhan, 2021). As the closures of university premises with regards to lockdown regulations, academics were advised working through digital platforms (Noh, et al., 2021). Under this troublesome circumstance, a hefty workload associated with converting module content from traditional teaching system to online lecture delivering method (Arora & Chauhan 2021), controlling students in a remote working environment, undesirable working conditions, issues adopting new technology, time management, alternation of academics' existing schedules, and social isolation led the path to exaggerate the stress levels of university lecturers while they were working

from home during the time of Covid -19 (Purawanto, et al., 2020). Notwithstanding, the new alternation of pedagogical method is a productive tool for the continuation of tertiary education, it enlarges the risk of occupational stress of university academics to some larger extent around the world (Noh, et al., 2021). Consequently, occupational stress has emerged as a grievous health issue among academics which has caused the imbalance of their physical and mental health (Giorgi, et al., 2020). Occupational stress, often known as job stress, is determined by how individuals react to certain events in the workplace. It appears with the incidents which they fail to bear physiologically and psychologically (Noh, et al., 2021). Occupational stress can be seen as a major contributor to various health problems such as anxiety, depression, insomnia, chest pain, and high blood pressure (Magnavita, et al., 2020).

To cope with the occupational stress, stress coping mechanisms such as, finding psychological support, religious practices (Gupta, et al., 2021), were utilized by the academicians during the Covid-19 period. Distinctly, female academics have become casualties of the occupational stress, since onuses of the occupation must be fulfilled in a fully digitalized, divergent manner (Noh, et al., 2021). Simultaneously, they are bound to fulfil domestic and childcare responsibilities in the WFH settings (Guy & Arthur, 2020). This issue has dramatically grown in the Sri Lankan context as, for Sri Lankan women academics, full digitized academic work is an unfamiliar experience (Rameez, et al., 2020), the domestic, and childcare responsibilities are traditionally considered as womanly tasks in South Asian countries such as Sri Lanka (Arora & Chauhan, 2021), most of them get inadequate support from their husbands while managing the work – family responsibilities (Vithanage & Hewapattu Arachchige, 2020), and during the time of crisis, they have less

likelihoods to pay attention to their emotional and spiritual benevolence because they primarily care about their family needs (Kalsoom, 2021).

2. Methodology

A deductive mixed research approach was followed for this study, where the study population comprised of 3597 female academics, representing both state and non-state universities in Sri Lanka. A total of 348 female academics were selected for the study using multistage stratified sampling.

For the quantitative data collection purpose, a stress measuring instrument called OSI questionnaire by (Suleman, et al., 2018), was utilized with few minor modifications to line up with the covid-19 pandemic situation. Data were gathered by using a cross sectional survey comprised of 46 items by using a ten-point Likert scale rated from very strongly disagree to very strongly agree which was distributed via google forms. In-depth interviews were conducted to gather the qualitative data for the research. A sample of 12 academics was randomly chosen of those who participated for the survey. The interviews were held over the phone and via zoom which lasted for 15 to 20 minutes. An initial pilot survey was also carried out using 30 female academics from both state and non-state universities, where minor adjustments were done to the questionnaire based on their feedback.

The entire quantitative analysis of the research was based on the descriptive statistics, which was mainly applied for measuring the stress levels with the participant's demographics, and to identify the most stress contributing factor among female academics. Descriptive statistics were utilized to analyze how the occupational stress levels varied among female academics, including, employment, marital status, and online delivery experience by using

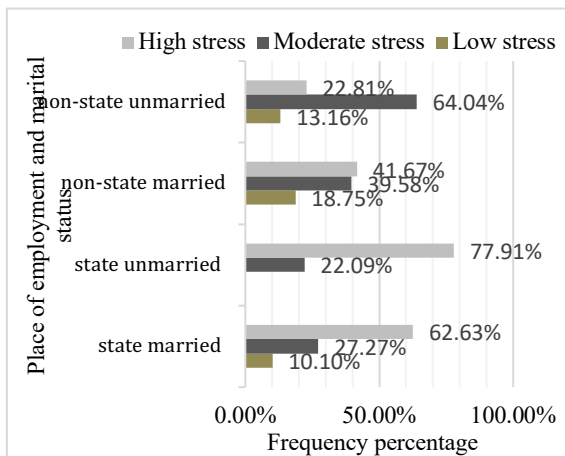
graphical representations of frequencies, and percentage tables. Thematic analysis was carried out as the qualitative analytical technique of the research, with the objective of identifying the stress coping mechanisms used by the female academics during the WFH period. To obtain valuable and meaningful results, authors transcribed all the recorded interviews and explored for themes.

3. Results

A. Reliability results

Researchers used a reliability test to interpret the ability of the questionnaire to provide accurate information for the analysis. Cronbach's Alpha test was applied to calculate the reliability of OSI. The following table shows the average of internal consistency (Cronbach's Alpha) of the study.

Table 1. Cronbach's alpha value of the OSI questionnaire



Reliability statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.965	0.958	46

Source: Author's calculations

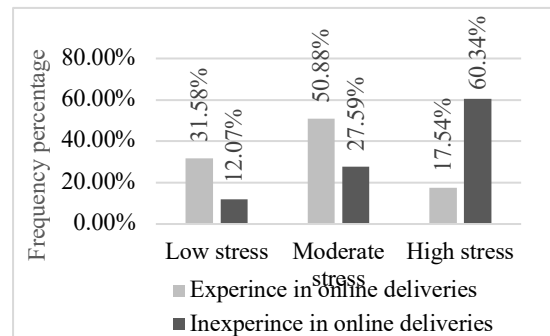
Therefore, the analysis reveals that the overall internal consistency reliability (Cronbach's Alpha) of OSI was calculated as 0.965 which confirms that OSI is a reliable research instrument for measuring occupational stress.

B. Statistical analysis

According to a computed stress score range, researcher's categorized three stress levels, and entire quantitative analysis was based on this categorization. Therefore, three levels of stressors and their score ranges were identified. Including, score range between 1-4 referring to low stress, score range between 4-7 referring to moderate stress, and score range between 7-10 referring to high stress.

C. Occupational stress distribution among state and non-state universities with referring to marital status

Figure 1. Occupational stress distribution among state and non-state universities with referring to marital statusSource: Author's compilation



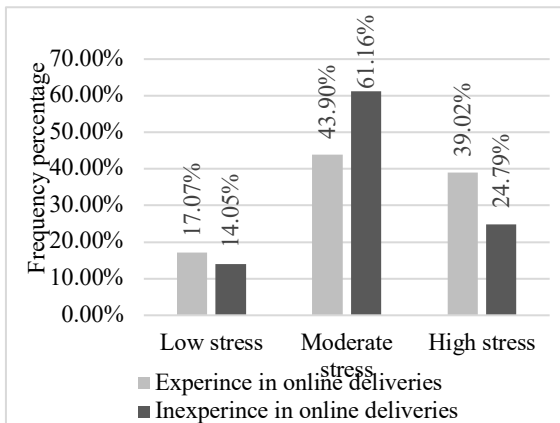
It demonstrates that 77.91% of unmarried female academics from state universities represented significant level of high stress with comparing to the married females from state universities.

On the other hand when considering the non-state universities, 41.67% of married females

experienced highest level of stress compared to the unmarried females from non-state universities. Therefore, out of the total sample, highest level of occupational stress has been reported from the state universities other than the non-state universities, and most of the female academics from non-state universities has been moderately stressed due to the sudden online transition, and out of that moderate stressed academics, most of the females were unmarried.

D. Occupational stress distribution by online delivery experience of state and non-state female academics

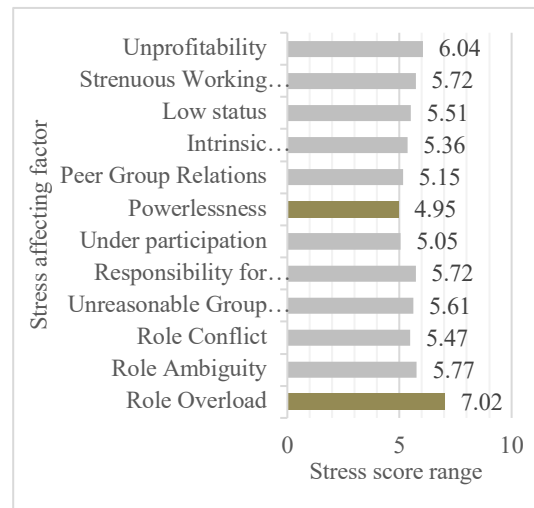
Figure 2. Occupational stress distribution by online delivery experience of state female academics



Source: Author's compilation

As the graph implies above, highest level of stress were encountered by the female academics who did not have any experience about online lecture delivering processes before (60.34%), other than the female academics who had experienced in online delivering's previously (17.54%).

Figure 3. Occupational stress by online delivery experience of non-state female academics



Source: Author's compilation

On the other hand, considering the non-state universities, according to the Figure 3. Occupational stress by online delivery experience of non-state female academics, 61.16% highest number of female academics from non-state universities were moderately stressed due to the unfamiliarity of online teaching method. However, with referring to the female academics who had previous experience of online delivery activities, 39.02% of female academics were encountered highest level of occupational stress compared to the female academics who did not have any online delivery experience previously (24.79%). Furthermore, it can be concluded, 60.34% of state female academics who were experienced highest level of stress due to the inexperience of online deliveries than the female academics who had not previously experienced online deliveries from non-state universities.

E. Factors affecting to occupational stress of female academics of state and non-state universities

Figure 4. Stress affecting factors distribution of female academics

Source: Author's compilation

It demonstrates a diverse distribution of stress affecting factors among female academics of state and non-state universities. Those 12 stress factors were adopted from the OSI questionnaire. According to the above mentioned stress score ranges, the highest level of stress affecting factor reported as role overload which was represented as 7.02, and lowest stress contributing factor reported to the powerlessness which was 4.95. Furthermore, all the other 10 factors has reported as moderate level of contribution of this study.

F. Thematic analysis

Method

Twelve participants were randomly chosen for in-depth interviews by considering the data given by female academics in the online survey. Out of the 12 participants, six were from state and other six were from non- state universities. The interviews were conducted to identify stress coping mechanisms used by female university academics while WFH during the time of Covid-19 crisis. Thematic analysis was utilized for creating a crystal-clear grasp on stress coping mechanisms of university female academics. All interviews were recorded, manually transcribed.

The transcribed responses were explored with inductive method of thematic analysis. Ergo, 'bottom – up' approach was used by allowing the data generate themes in the place of matching the data to prevailing principles (Young, et al., 2018). The six-step process mentioned by Braun and Clarke was used for data analysis (Young, et al., 2018). Five main themes were unearthed from the analyzed

interview transcripts: (1) physical, (2) cerebral, (3) creative, (4) communal, (5) psychological. As well as one of the major themes "communal" was divided into two sub themes as virtual and authentic.

Physical

A substantial tendency to utilize coping techniques which are associated with physicality is obviously visible among both state and non-state university participants, e.g. "I did gardening for giving some relaxation for my mind as well as eyes", "engaged in cultivation", "I tended to do workouts", and "exercise". Most of the respondents specified "yoga" as one of their stress coping strategies while WFH.

Cerebral

Most of the interviewees from private universities reported one of their coping mechanisms was "cerebral" which assisted to grow IQ and the ability of concentration, e.g. "I read books" and "learned to prepare food". Whereas the response of one public university participant: "I did puzzle games between lectures with students" was distinguishing as uncommon one.

Creative

The frequency record upon "creative" coping techniques was obtained by state university respondents, e.g. "I wrote books with my friend by discussing things via zoom", "I create new clothing and bedsheet styles" and "I made new foods using u tube video". In here, for participants' "creative" coping techniques, there was a considerable priority to get the assistance of new technology.

Communal

The "communal" stress coping mechanisms were focused on socialization. It derived two sub themes: virtual and authentic.

Virtual

Many interviews from non-state universities declared that they used virtual platforms to make social connections stable in the WFH environment during Covid-19 period, e.g., “participated zoom sessions to chat with others”, “I used social media platforms to chat with others” and, “formal WhatsApp group to chat with other employees at university”.

Authentic

While private university respondents stated “virtual” for social connection, state university had desire on authentic communication methods to cope with stress, e.g., “chatting with family members”, “I spend teatime with family members in the garden” and “I went day out with family to enjoy in weekend”

Psychological

Out of all five main themes, the least frequency from both state and non -state university interviewees were reported under the theme “psychological”. Amongst 12 participants only 2 were mentioned on those psychological stress coping strategies, e.g., “practice religious things”, “listen Bana programs”, “listening to stress relaxing music”, and “watched a movie to avoid fatigue”

4. Discussion

The present study was conducted to investigate the occupational stress and WFH experience among university female academics in Sri Lanka due to the Covid-19 pandemic. Quantitative and qualitative research techniques have been used to investigate the occupational stress among university female academics. This study revealed that 77.91% of unmarried female academics from state universities represented highest level of occupational stress other than the unmarried female academics from non-state universities. On the other hand, 60.34%

of respondents from state universities had been experienced highest level of stress due to the inexperienced of online deliveries previously. Information gathered through the interviews from state female academics indicate that, since the online teaching method was not practiced before, it became harder for adapting to the sudden digital transition. Same results shown by the Ghasemi, et al. (2021), demonstrates that the brand new technologies used for recorded, and uploaded lecturers in a regular manner had been more frustrated among the academics. Therefore, this inexperience of online delivering and WFH concept had played a major role of creating a huge burden among academics during the pandemic (Molino, et al., 2020).

Furthermore, present study explored that role overload as the highest stress contributing factor among the female academics. The similar results were presented by Christian, et al., (2020) investigated that workload of the academics were significantly increased during the pandemic and it's directly impacted for the teachers performances. The interview results indicate that, time taken to get practiced and familiar with the new working platform has been an additional work for most of the academics, which was increased their daily workload. The same idea was presented by Zeeshan, et al., (2020) found that training sessions conducted for practicing this new online teaching mechanisms has directly lead to increase some extra responsibility of the academics life. Furthermore, Gupta, et al., (2021) investigated most significant stress factors among hospitality and tourism lectures during the pandemic, by using frequencies and percentage distribution tables. According to that study, feeling of working all the times, irregular working hours and significant stressors were found out of the increasing the academic workload during the pandemic (Gupta, et al., 2021).

The thematic analysis which was utilized to identify stress coping mechanisms of female university academics was derived fruitful outcomes as we hoped by disclosing five main themes: physical, cerebral, creative, communal and psychological. As well as one of main theme 'communal' was categorized into two sub themes as virtual and authentic. Some consequences are in line with past investigations, whereas most of them are novel and specific to the female university academics. The present study evidently pinpoints those respondents from both state and non-state universities in Sri Lanka are frequently utilize 'physical' stress coping mechanisms out of other stress coping mechanisms. These findings are aligned with the results of the study Gupta, et al., (2021) in India. Whilst it is considered on 'cerebral' stress coping mechanisms, doing puzzle games between lectures with students has drawn as a unique strategy among female university academics in Sri Lanka. A propensity of obtaining assistance of new technology in light of 'creative' stress coping strategy is distinguished prominently among state university participants. The usage of 'psychological' stress coping strategy is minimum amongst both state and non-state university participants. The results are parallel to the study findings of (Zvada & Thomas, 2019). The consequences of community oriented coping strategies of female academics are visible as timely distinctive, in account of they were caged inside four walls in their homes with the lockdown regulations during that time, Hence virtual and authentic techniques are used by them to cope with occupational stress.

5. Conclusion

The primary goal of this research was to investigate the occupational stress and WFH experience among university female academics during Covid-19 pandemic. While

quantitative and qualitative techniques have been used to investigate the occupational stress levels, stress affecting factors and the coping strategies used by the female academics, only a few number of researches have been conducted for investigate the occupational stress in Sri Lankan context. According to the analysis results of the present study, unmarried female academics from state universities experienced highest level of occupational stress than the married female academics. However, it should be highlighted that, both married and unmarried academics are should be considering to investigate the impact of the occupational stress under the WFH environment. Furthermore, current study explored that female academics from state universities had been encountered highest level of stress due to the inexperience of the online delivery previously, with compared to the female academics who have been practiced online teaching methods before. Based on the quantitative results of the study, role overload has reported as the most stress affecting factor among the female academics. According to the findings of thematic analysis, five main themes were emerged: physical, creative, cerebral, and communal and psychological. In here, high frequency record was obtained by physical stress coping mechanism while lowest frequency record was obtained by psychological stress coping strategies from both state and non-state university female academics. Based on the findings and conclusion, it was recommended that, results should be beneficial for the Sri Lankan higher education sector and the state and non-state universities for policymaking's and formulating strategies for stress reduction management of the female academics. Therefore, they can implement and perform their work more effectively.

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Abbreviations

OSI = Occupational Stress Index
WFH = Work From Home

Acknowledgment

At the inception, we are much obliged to academic staff of SLIIT business school, our beloved parents and friends who have aided us in a generous manner to wind up this degree program. Authentically, their encouragement for achieving success of this research is admirable. Without their assistance, and guidance this investigation is beyond accomplish.

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A Study on Undergraduates' Perception on The Transition of Learning from On-Campus to Online

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Abstract: Sri Lanka gained independence in the 1948. With that after the economic turbulences and downturns, Sri Lanka is managing to give higher education to children on campus for a longer time. As a result of that, student interaction has been achieved, and the education achievement has taken in far with developed countries. In this rapid transition, undergraduates must adapt themselves accordingly to virtual platforms. Though the technology is very poorly developed in the country as per the literature reveal to come out due to this Covid-19 pandemic new term has arrived at Sri Lanka. Though it is a new platform, through a lot of difficulties try to manage it. By considering the above facts, the objective of this study is to find out factors affecting the undergraduate perception of online learning, and how it can be used to improve the efficiency and effectiveness of online education. As a sample 373 undergraduates are going to be selected for the quantitative study using a simple random sampling method while for the qualitative study 10 industry experts and academic experts are going to be selected by using the judgmental sampling method. As the data collection method for the quantitative component, the semi-structured questionnaire is going to be used while, for the qualitative component focus group discussions and interviews are going to be used which is in the consistent method in research methodology. Finally, as the data analytical path for the qualitative study thematic

approach is going to be used while for the quantitative study linear regression model is going to be used as parameter estimates. As a statistical tool for a quantitative study, SPSS version 22 to be used while, for the qualitative study QDMINSER is going to be used.

Keywords: Online Learning, Undergraduate Perception, Transition

1. Introduction

A. Background of the study

Sri Lanka is a developing nation situated in South Asia. Education in Sri Lanka has a long history that dates back two millennia, and the Constitution of Sri Lanka provides for education as a fundamental right (Devapriya, 2019). Sri Lanka's population has a literacy rate of 92%, higher than that expected for a third world country; it has the highest literacy rate in South Asia and overall, one of the highest literacy rates in Asia (Higher Education in Sri Lanka, 2016). As higher education plays a pivotal role in life and Sri Lankan society placed a high value on higher education (Devapriya, 2019). In this context, higher education is primarily provided through universities. The origins of the modern university system in Sri Lanka dates back to 1921 when a University College, the Ceylon University College was established which was

affiliated with the University of London (Devapriya, 2019).

The transition of Sri Lankan higher education was occurred in mainly four steps. They are Traditional courses, Web-Facilitated courses, Blended/Hybrid courses, and Online courses (Allen and Seaman, 2016). Sri Lankan traditional learning system is based on classroom instructions, and it is known to be lecturer-centered and requires passive learning by the student (Paul and Jefferson, 2019). First, the learning process is happened through only within the lecture hall, and content is delivered in writing or orally. Students are still required to attend class, learn the material, submit assignments, and complete group (Paul and Jefferson, 2019).

B. Problem Statement

According to Dias and Eliatamby (2020), Sri Lankan higher education system is basically dominated by the traditional education system. This was proven with the difficulties many Universities faced during the adaptation of online learning platforms during the recent pandemic. However, according to L. Smart & J. Cappel (2006) undergraduate perception on this transition is quite controversial as there are both positive and negative responses. While some undergraduates argue that as Baber (2020), the online learning is beneficial as it gives a frameless technological gateway to the world of knowledge, J. W. Lee et al. (2012) shows others oppose this as they believe it has set a barrier to their scope of study. When it comes Sri Lankan context, even from Jayatilleke & Gunawardena (2016), it can be seen that this major debate on perceptions has not been analysed sufficiently as a matter of concern before switching the education platforms from traditional to online which has ultimately created a dilemma around the online education.

2. Literature Review

A. Behaviorism Theory

According to Reber behaviorism is define as A psychological approach that claims that the only relevant subject matter for scientific psychological inquiry is observable, measurable behavior (Reber., 1987). The assertion that only things that could be directly observed were scientifically meaningful comes from the work of the finding of the founder of the term 'behaviorism'(Clavijo, 2013). When considering the perceptions of the undergraduates, the proposition and the opposition is based on personal thoughts rather than the actual level of ideas (Jayatilleke & Gunawardena, 2016), where the evidence shows a reluctance to undergo this transition even though the student achievement is high (Shachar & Neumann, 2010). So far, these theories have not been evaluated effectively to understand the undergraduates' perceptions.

According to Miltenberger, behavior meaning what people say and do. The behaviorism theory concentrates on the study of overt behaviors that can be observed and measured(McInerney, 2005) .It considers the mind to be a "black box" in the sense that it may be monitored statistically in reaction to stimuli, completely dismissing the notion of cognitive processes taking place in the mind. All theories, according to behaviorists, should include observable processes such as actions. Because inner states such as intentions or mental states cannot be examined objectively, only overt conduct should be studied and recorded for them. (Ngandu and Hambulo, 2013).

3. Methodology

A. Conceptual Framework

Based on the research objectives, research questions and the review of literature, the conceptual framework has been shown below in Figure 1. It represents the relationships

between several independent variables and dependent variable which has been identified based on the literature review.

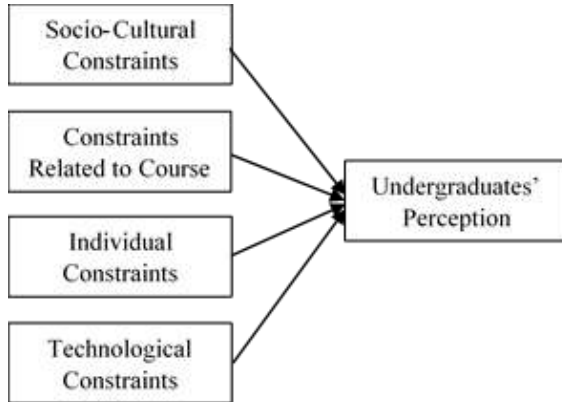


Figure 1. The Impediment Factors on Undergraduates' Perception

Source: Developed by the Authors Based on the Review of Literature (2021)

According to the figure 1 as above, the independent variables are constraints related to course delivery, Societal/Cultural, Individual and Technology, while the dependent variable is the undergraduates' perception. Kundu and Bej (2021) have found out that students are constantly disappointed on the lack of self-regulating skills and poor time management during e-learning and based on this the authors have identified individual constraints as a valid variable. Lee (2017) says that the students viewed educator's teaching quality and presence of a flexible course design affected the effectiveness of online education and based on this the authors have identified course-related constraints as a valid variable. Gopal, Singh and Aggarwal (2021) denote student have been striving to participate in online lessons due to problems with internet access, connectivity and technology and based on this the authors have taken technological constraints. In addition to that, Bali & Liu (2018); Jayatilke & Gunawardena (2016) mention that Societal/Cultural constraints and

Perception positively influence each other. And therefore, based on these variables the authors have developed our entire platform.

$$Y=f(X1_{ij}, X2_{ij}, X3_{ij}, X4_{ij}) \text{ err}$$

B. 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.

Where,

- Y = Vector of Undergraduates' Perception
- X1 = Vector of Constraints Related to Course Delivery
- X2 = Vector of Societal and Cultural Constraints
- X3 = Vector of Individual Constraints
- X4 = Vector of Technological Constraints
- i = An Undergraduate
- j = of General Sir John Kotelawala Defence University
- err = Error term

C. Sampling Frame and Sample Size Calculation

The study is a quantitative study. Therefore, as per the formula shown below 373 students are expected to be selected using simple random sampling method. Population is undergraduates of General Sir John Kotelawala Defence University (KDU). Sample framework is the list available in each faculty. Element is the student. As the study is a quantitative one, in order to collect the primary data structured questionnaire method is expected to be taken.

D. Data Presentation and Analysis Methods/Tools

In the data analytical part, the quantitative analysis study has expecting to conduct a

linear regression model as the empirical model, and SPSS Version 22 and AMOS version 21 are going to be used as statistical tools (Sekaran and Bougie, 2016). In analytical part basically in the quantitative side comprise of univariate analysis, bivariate analysis, and multivariate analysis. The multivariate analysis stands in the empirical testing the estimate in reliability, validity, sample adequacy, the goodness of fitness, model fit, and parameter are going to be conducted (Sekaran and Bougie, 2016).

4. Quantitative Analysis

A. Assessment of Credibility

According to Lincoln and Guba (2012), research should necessarily be credible. Credibility is the degree to which a research study is plausible and the extent to which the results of the study connect with the actual world. For the Assessment of Credibility of the research, the Reliability, Validity, Sample Adequacy and Normality tests were conducted.

B. Reliability

The reliability test was used to determine the internal consistency and the extent to which the scale's elements measure the specific indicator.

Table 1. Reliability of the Instruments

On-Campus		Variable	Online	
No. of Items	Cronbach's Alpha		No. of Items	Cronbach's Alpha
4	0.549	Socio Cultural Constraints	4	0.593
11	0.957	Course Related Constraints	11	0.919
7	0.813	Individual Constraints	7	0.805

7	0.924	Technological Constraints	7	0.893
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Source: Survey Data (2021)

According to the above Table 1, the Cronbach's Alpha values range from 0.549 to 0.957. It is observed that apart from the variable "Socio-Cultural Constraints (both On-campus and Online)" which account to a 0.549 and 0.593 respectively, all the other Cronbach's Alpha values are above 0.6, which was the benchmark value recommended by Nunnally (1967).

C. Sample Adequacy

In addition, SPSS has a convenient tool for determining if the sample is large enough. As a result, the KMO-test (Kaiser-Meyer-Olkin-test) is used to determine the sample adequacy. In SPSS, the Bartlett's test of sphericity is used to see whether the sample is sufficient to go for the further data screening. Table 2 summarizes the output of the KMO-test in relation with On-campus learning and Online learning respectively.

Table 2. KMO and Bartlett's Test

On-Campus		Online
0.747	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.706
493.467	Approx. Chi-Square	431.544
10.000	Df	10.000
0.000	Sig.	0.000

Source: Survey Data (2021)

The KMO when it comes to On-campus learning is 0.747, as seen in Table 2 For the factor analysis to be regarded suitable, Bartlett's test of sphericity must be statistically

significant at $p < 0.05$. The KMO index ranges from 0 to 1, with 0.6 suggested as the minimum value for good factor analysis (Tabachnick & Fidell 2007). Thereby, the sample result represents 74.7 percent of the population changes in On-campus learning while the Online learning sample result represents 70.6 percent of the population changes.

D. Normality Test

Generally, in order to conduct a statistical analysis, especially in Linear Regression Analysis, as the dependent variable is measured using ratio data, the normality test has to be conducted in order to see whether the data is normally distributed. For this, we use the Skewness and Normality tests. The results of the Skewness and Normality tests can be expressed as follows.

According to the above table, for the purpose of determining that the data is normally distributed and a proper bell-shaped curve is obtained, the Skewness should be between -1 to +1, whereas the Kurtosis value can occupy any value that ranges between -3 to +3. As per the information obtained from the Normality tests conducted by SPSS, it is evident that all the figures are within these two ranges and therefore, it can be concluded that all the variables related to On-Campus and Online are normally distributed.

E. Uni-variate Analysis

In this test, English Literacy is not having a transition while others are obtaining. Rest indicators which are social interaction, reluctant to take uncertain risks and narrowed the conservative gap between lecturers and students having a significant transition of on-campus to online. The inner behavioral pattern and competitive behavioral pattern, it is clear that in the case of English Literary Proficiency, there is no significant transition from On-campus to Online while Social Interactions, the

Reluctancy to take Uncertain Risks and the Narrowed Conservative Gap between the Lecturers and Students have an inverse transition from On-campus to Online.

It is observable that there is no considerable transition from on campus to online with respect to assignment submission. A positive transition is visible for the time saved in on campus versus online whereas the rest (Conducting exams, Delivery of subject content, Practical sessions, Reading materials. Self-Learning, Lecturers' knowledge to handle resources when delivering lectures, Time spent on academic work, Workload and Engagement in Non-academic activities) signify a negative transition.

The inner behavioral pattern and the comparative behavioral pattern of the indicators of Individual Constraints such as the Ease of adapting to new situations, Feeling More challenged, Feeling demotivated on the long-run, Facing more economic challenges, the Student-student interactions, the Student-lecturer interactions and the Feeling of isolation as shown in Table 5.15. Kundu and Bej (2021) identified Individual Constraints as an Independent Variable that influences the shift of learning from real to virtual.

F. Goodness of Fitness

The assessment of Goodness of fitness measures what percentage of the dependent variable is measured by the independent variable. R^2 , which is the measure of Goodness of Fitness, has shown a 72.6 percent when it comes to traditional On-Campus learning. This indicates that 72.6 percent of the changes of the dependent variable (Undergraduates' perception on the improvement of learning via physical platform) can be observed from the independent variables (Socio-Cultural Constraints, Course Related Constraints, Individual Constraints and Technological Constraints).

For Online learning, R square is equal to 74.7 percent. This implies that the independent factors (Undergraduates' Perceptions of learning improvement via Digital platform) account for 74.7 percent of the changes in the dependent variable (Socio-cultural Constraints, Course Related Constraints, Individual Constraints and Technological Constraints). As a result, the fact that the independent variables identified by the researchers can reflect more than 50% of the changes in the dependent variable, it indicates that the dependent and independent variables have an ideal Goodness of Fit.

G. Model Fit

Model Fit is the measure which is used to see whether the selected independent variables are the right set of variables to see the variance of the dependent variable. To find whether the independent variables really matter in order to influence the dependent variable, the ANOVA analysis was used. The ANOVA significance was calculated, and the obtained result is shown. Accordingly, the significance value (Sig.) obtained was 0.000b, which is below 5 percent ($p < 0.05$) of confidence interval. This signifies that the error of margin is zero. Thus, it can be comprehended that the selected independent variables are the right set of independent variables which can adequately measure the changes of dependent variable. According to Sekaran & Bougie (2016) and Saunders et al. (2015) the model fit should be less than 0.05, otherwise, the result of the quantitative analysis may become void.

H. Parameter Estimates using Linear Regression Analysis

Having completed the Uni-variate Analysis which tried to see the inner behavioral pattern of the indicators and the independent variables; the Bi-variate Analysis was conducted to see the association the independent variables and the dependent

variables. However, the expected result of the research objective cannot be derived either from Uni-variate analysis or Bi-variate analysis alone because in the study, the research objectives are formed in order to find the Effect Analysis or Impact Analysis. In order to measure the Effect analysis and Impact analysis as per Sekaran & Bougie (2016) none of the correlation analysis and univariate analysis can be helpful, but these two can be used as Subsidiary Analytical Tools. However, in order to do the hypothesis testing and the coefficient, effect, impact analysis; the Multivariate Analysis (Parameter Estimates) has been conducted and the result is discovered.

The independent variables in this study are Socio-Cultural Constraints, Course Related Constraints, Individual Constraints and Technological Constraints while the dependent variable is the Undergraduates' perception on the improvement of learning with regard to its transition from On-Campus to Online. outcome shows the impact of changes in independent factors on the dependent variable.

Socio-Cultural Constraints showed a significant impact on the outcome variable during On-Campus learning, and with the transition to the digital platform, the impact from this constraint, although yet again is significant, however has a lesser impact. A very spectacular point to note with respect to this constraint is the shift of signs from negative to positive, in the unstandardized and standardized coefficients. Here, it implies that the more the Socio-Cultural Constraints are, the more negative perception will the Undergraduates' have on the improvement of learning On-Campus. Contrastingly, the increase in Socio-Cultural Constraints has a lesser impact on the improvement of learning for Undergraduates on the Online platform.

Table 3. Coefficient Analysis

Coefficients ^a						
On-Campus			Variable	Online		
Unstandardized Coefficients	Standardized Coefficients	Sig.		Unstandardized Coefficients	Standardized Coefficients	Sig.
B	Beta			B	Beta	
-1.62		0.419	(Constant)	-3.489		0.086
-0.182	-0.175	0	Socio-Cultural Constraints	0.281	0.307	0.028
0.071	0.44	0.003	Course Related Constraints	0.011	0.044	0.394
0.381	0.417	0.003	Individual Constraints	0.071	0.446	0.002
0.004	0.017	0.749	Technological Constraints	0.128	0.185	0.002

a. Dependent Variable: Undergraduates' Perception on the improvement in learning

Source: Survey Data (2021)

Course-related Constraints showed significance (0.003) with respect to the dependent variable during On-campus learning, however, became a non-significant factor (0.394) when it came to Online. This suggests that course-related constraints have a similar impact on the progress of learning in both traditional and digital platforms, but it is more significant in the traditional one.

The third independent variable, which is Individual Constraints is a significant factor that has a great impact on the outcome variable, the Undergraduates' Perception on the improvement in both On-Campus and Online education. However, its significance has comparatively increased as a result of the transition. Here, it infers that the more the

Socio-Cultural Constraints are, the more unfavorable the Undergraduates' view of the betterment of learning Online will be due to factors such as demotivation and reluctance to a brand-new environment.

The shift from being non-significant (0.749) to significant (0.002) is a particularly striking feature of the fourth restriction which is Technological Constraints. During On-Campus learning, Technological Constraints had a minor influence on the Dependent variable. Nevertheless, with the move to the digital platform, the impact of this limitation, became substantially influential. This is justifiable, given the fact that the online learning platform built entirely on digital platform will majorly be impacted by Technological Constraints such as poor network connections, discontinuity of learning and unavailability of technological devices.

5. Findings, Conclusion and Recommendation

A. Findings

The section objectively examines the findings to the research questions that were established in chapter one.

Objective 01: To Identify the Impact of Constraints Related to Course Delivery on Undergraduates' Perception regarding the Transition of Learning.

According to the univariate analysis, the highest significant factors for this is Course Delivery Constraints, while as indicated by the correlation analysis the association between these two variables are positive and according to the parameter in the table 3 the Course Delivery Constraints has a positive impact upon the academic achievement of the undergraduates in earlier On-Campus situation than the online state.

Objective 02: To Assess the Influence of Societal/Cultural Constraints on Undergraduates' Perception regarding the Transition of Learning.

According to the univariate analysis, Societal/Cultural Constraints are positively affected on the academic performances of the undergraduates in the earlier On-Campus situations than online scenario.

Objective 03: To Determine the Effect on Undergraduates' Perception by Individual Constraints regarding the Transition of Learning.

univariate analysis shows that individual constraints also having a specific acceptable significance. By observing the statistical analysis results, researcher can find that Individual Constraints are positively impact on current online platforms rather than previous on-campus situation.

Objective 04: To Identify whether Technological Constraints Affect Undergraduates' Perception regarding the Transition of Learning.

Corresponding to the univariate analysis, the Technological Constrains having a proper significance, while as implied by the correlation analysis the association between these two variables are positive. Statistics shows that technological constraints have a positive impact on undergraduates' academic performances on novel online learning rather than earlier on campus learning.

B. Discussion

Understanding and analyzing the Undergraduates' Perception on the Transition of Learning from On-campus to Online is a critical requirement of today to provide quality education (Bali & Liu, 2018). In Chapter One, the researchers have acknowledged the Research Problem and derived four main Research Questions. The researchers came up

with a Core Objective accompanied by Sub Objectives, while attempting to resolve these Research Questions. With the help of recent statistical data, this study aims to provide a critical analysis of how the Undergraduate Perception has been evaluated in light of the aforementioned constraints, and how these constraints can be considered to improve the efficiency and effectiveness of online learning platforms. Chapter Two was constructed on the basis of the Research Gap identified from the existing literature. Furthermore, by reviewing literature, the researchers have identified four main Independent variables; Socio-Cultural Constraints (Clarke, 2006), Course Related Constraints (Jayatilleke and Gunawardena, 2016), Individual Constraints (Cantor *et al.*, no date) and Technological Constraints (Thaheem *et al.*, 2021) to impact the Undergraduates' Perception on the Improvement of Learning with regard to its transition from On-Campus to Online, which is the Dependent Variable. Understanding these constraints with regard to the renowned theories lead this research to be an exceptional one (Tansey, Spillane and Meng, 2014). An analysis of Cultural, Technological, Individual and Course Related Constraints with reference to World Renowned Theories; Theory of Behaviorism (Bali and Liu, 2018), Theory of Evolution (Muthuprasad *et al.*, 2021) and Socio-cultural (Andersson and Grönlund, 2009) done in the chapter two. When pertaining to the perception of the undergraduates, the proposition and the opposition is based on their personal thoughts rather than stereotypical and mythical ideas existing in general (Jayatilleke and Gunawardena, 2016), where the evidences show a reluctance to undergo this transition even though the student achievement is high towards the end of this shift in (Smart and Cappel, 2006). So far, these particular constraints have not been evaluated effectively to understand the undergraduate perception.

A systematic search of the literature from 1996 through July 2008 identified more than a thousand empirical studies of online learning (James and Yun, 2018). However, none of the researchers have paid much attention on how the Constraints related to the academic Courses, Societal/Cultural constraints, Individual Constraint and the Technological Constraints can have an impact on the Undergraduates perception on the shift of learning from real to virtual (Smart and Cappel, 2006). This research intends to support future researchers and educational experts to understand the actual reasoning behind the perceptions of undergraduates and thereby, improve the online education system far better in future than it is today.

According to the quantitative and qualitative data analysis, the researchers have discovered that the Societal/Cultural Constraints have positively affected the academic performance of the undergraduates in the early On-Campus situations whereas there is an inverse relationship with the current online scenarios. Statistical data also proves that the highest significant transition from On-campus to Online is with regard to this constraint (the shift in the signs of the unstandardized and standardized coefficient values from positive to negative) (Societal/Cultural related constraints were examined under four indicators and they are English (Devapriya, 2019), social interaction (Marjoribanks, 2003), reluctance to take uncertain risks and the narrowed conservative gap between lecturers and students (Lee, Becker and Nobre, 2012) As per the results obtained from the paired tests, although there is an insignificant transition of the English literacy factor, the undergraduates do believe that they are experiencing fewer social interactions, an increase in the conservative gap between lecturers and the students and that they are less reluctant to take uncertain risks when it came to Online as

opposed to On-campus. In addition to these factors there are some other social cultural constraints which affected the Undergraduates' Perception on this shift in academia. They are Power/ Wealth Distance (Gunawardena et al., 2001), Collectivism (Mercado et al., 2004), Gender Role (Mercado et al., 2004), Family Background (Marjoribanks, 2003), Religion (Keengwe & Kidd, 2010) and Native Language (Jayatilleke & Gunawardena, 2016). Some of these factors have been investigated through the Undergraduates' demographic factors via the quantitative analysis. These factors have made a significant effect to the improvement of learning in the previous On-campus situation, but in recent online education they are not that impactful. The qualitative study of Chapter four (Figure 4.3) also provides some evidence for the results of the quantitative analysis. Prior mentioned facts prove that the most prominent factor that has contributed to the Undergraduates' Perception on the improvement of learning as a result of the transition from On-Campus to Online is Social-Cultural Constraints.

Technological constraints are discovered to have made the next most impact on Academy performances of undergraduates within current online education rather than previous on campus education. It is in common knowledge that the Online education is necessarily built on a digital platform. By considering the statistical test results researcher can clearly indicate that technological constraints have prominent significant difference been transforming on campus to Online. This study has identified seven indicators from the qualitative analysis which depict the constraints related to technology. Although the undergraduates utilize the Internet even before the transition and availability of a few devices would suffice the need of the undergraduates, when it came

to online the insufficient access to technological devices and network connectivity issues hugely impacted the undergraduates during online learning. Students responded that the affordability and use of blended learning was more applicable on-campus, because when it shifted to online learning during the pandemic, academia was entirely based on a virtual platform. The technology integration was more influential in online learning. A significant difference was observed in learning amidst of power failures (Kartawidjaja, 2020) and stability of Internet connection (Bisht et al., 2020) because students believe that is a major issue when it comes to online than traditional learning. Technological constraints also include mode of access (Janaka Selvaras, 2020), source of access (Bisht et al., 2020), status of devices and Internet (Thaheem et al., n.d.), technology platforms and connectivity (Selvaras, 2020). Qualitative analysis (chapter five) provides evidence to confirm that the technological factors have had a huge impact on the undergraduates' perception with regard of this transition. By considering above statements and arguments, it can be concluded that Technological constraints have the second highest impact towards the Undergraduates' Perception on the improvement of learning as a result of the transition from On-Campus to Online.

Individual constraints were deduced to be the third most influential factor on the Undergraduate's view on the shift in academia from traditional to the digital platform. As per the statistical data, it is evident that Individual constraints, although being a significant indicator during both on campus and online, resulted in a slow transition due to the small difference between the coefficients and significant numbers obtained. Through the qualitative analysis, the researchers were able to identify seven sub themes under the main

theme "Individual Constraints". According to the trends depicted in the Paired test under Univariate Analysis, it is observed that the undergraduates are reluctant to adapt to the online platform due to the general belief of online learning being more challenging to engage in than on campus. Moreover, it is understood that the students feel demotivated on the long run probably due to the isolation and lack in social interactions between students and students; and between students and lecturers when engaging in the digital in comparison with On campus education (Alawamleh et al., 2020). The Emotional Stability (Kartawidjaja, 2020), Self-Directed Learning, Pessimism (Cole et al., 2014), Economic difficulties, Technological Confidence, Social Support, Excessive screen-time that leads to fatigue and Time management (Kamal et al., 2020) are some other individual constraints that were discovered to prevail among the undergraduates. Chapter four reveals some evidence which confirm the revelations above. After contemplating the above arguments, that researchers declare the individual constraints to be the third most prominent variable to influence the Undergraduates' Perception on the improvement of learning as a result of the transition from On-Campus to Online.

Course Delivery Constraints was found to be the least contributing factor on the Undergraduates' Perception on the transition of learning from real to virtual. As identified by the in-depth interviews, the Course- related constraints were tested under eleven indicators which are Conducting Exams (L. Smart & J. Cappel, 2006), Delivery of Subject Content (Bali & Liu, 2018), Practical Sessions (Jayatilleke & Gunawardena, 2016), Assignment Submission (Mercado et al., 2004), Reading Materials (Ahmad et al., 2015), Self-learning, Lecturers' knowledge to handle Resources when Delivering Lectures

(Grensing-Pophal, 2020), Time Saving (H. Lee, 2021), Time Spent on Academic Work, Workload and Engagement in Non-Academic Activities (Jayatilleke & Gunawardena, 2016). According to the paired test, there is a substantial difference between administering exams on campus and online. It was relieved that the respondents favor physical tests over online examinations. Also, when it comes to the delivery of subject content, the undergraduates prefer on-campus settings. A major significant transition can be seen in conducting practical sessions, where the students showed very high preference to on campus practical sessions. The indicator, Assignment Submission shows a very small transition where either On-campus or online makes no much difference. Utilizing reading materials is mostly seen to impact on campus education than online (Halabi et al., 2014). Engagement in self learning is also viewed as a prominent feature that has been encouraged during on campus learning than online. Undergraduates believe that lecturers' knowledge to handle resources while delivering lectures On campus is more favored than that done online, because of the inline platform being a foreign tool for many traditional lecturers (Baticulon et al., 2021). A spectacular preference of Undergraduates is observed towards Online learning with regards to their time being saved. However, it is also worthy to note that the undergraduates seem to have spent more time on academic work during on campus than online. With the transition of learning to Online, it is also statistically evident that the Undergraduates are burdened with a heavier Workload than before. The engagement in non-academic activities during On-Campus was reported to be significantly higher during traditional learning in comparison with the virtual platform. Following qualitative data provide evidence for the above stated facts. Thereby, it can be concluded that the Course Delivery

Constraints have the least impact when it comes to the Undergraduates' Perception on the improvement of learning as a result of the transition from On-Campus to Online.

C. Conclusion

Due to the current global pandemic Sri Lankan higher education system has to move into the online platform and had to overcome barriers and under graduates also has to face some difficulties as well as got some benefits through this transition. This study will provide a proper explanation about this switch of platforms. The major purpose of this study is to reveal the relationship between undergraduate study performance and constraints (course related, socio-cultural, individual, technological). According to the quantitative analysis and qualitative analysis, the most prominent transition has happened in social cultural constraint, which a significant movement from negative to positive. The second conspicuous transition has happened in technological constraints, which a non-significant factor has become a significant value. There is a sluggish transition happened individual constraint and course related constraints.

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Acknowledgment

It gives us great pleasure to express our heartfelt appreciation to our supervisor, Dr. Upali Rajapaksha, for his untimely support, insights, direction, and motivation during this project. We would also like to thank Ms. DR Perera, our research coordinator, for her advice and assistance. We are very grateful to our parents and family members for their unwavering encouragement and support. We would like to express our gratitude to the authority of General Sir John Kotelawala Defence University for providing us with the

necessary research facilities. We are also appreciative to the people who took the time to fill out our surveys and give us their feedback as well as for providing truthful responses for the study. Finally, we would like to convey our sincere gratitude to our colleagues for their unwavering support and encouragement during our research project.

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An analysis on how current social media trends affect the transformation of Sri Lankan English Morphological processes; A study based on 'Aunty Netta' YouTube channel

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Abstract: *Regular changes in language can be identified as a common phenomenon in most countries including Sri Lanka. Accordingly, such deviations have caused dramatic changes in all major languages in use. From a societal perspective language changes can be identified as a historical and also a contemporary feature. Even though many tend to misunderstand this phenomenon as a situation where corruption occurs, in reality this shift is unavoidable. It can be said that everything around a particular language is changeable and it occurs due to various socio-cultural reasons. Accordingly, Sri Lankan English (SLE) is one of the languages that is constantly influenced by various languages and social aspects. Among them in the present context social media platforms perform a crucial role in causing a number of language changes in various perspectives such as morphological, syntactic, phonological and so on. Accordingly, various morphological processes can be identified in most of the languages due to the social media influence. In fact the focus of the study is on how SLE is modified according to various trends. Thus, the present study seeks out to portray the morphological processes that continuously add and create new words in Sri Lankan English vocabulary through the evidence provided by the chosen content creator 'Aunty Netta' by Nimmi Harasgama.*

Keywords: *Morphological processes, social media, SLE*

1. Introduction

It is evident that the social, political and cultural events of a particular society profoundly affect the emergence of new words and phrases in a language. After the spread of English language "to other continents and countries from about the eighteenth century onwards the English language developed into new varieties" (Fernando, 2012) resulting in the emergence of "transplanted languages" (Kachru, 1982) such as Sri Lankan English (SLE). The bridge between these different varieties is morphology which is "the study of word-formation and word-structure" (Katamba, 2005). Accordingly, it is identifiable that in recent years the usage of social media and technology has rapidly increased in Sri Lanka. These contents are majorly found in platforms such as YouTube where people have attempted various approaches to portray humor, knowledge, lifestyles, culinary skills and so on using language. It is evident that the target audience of such creations are majorly "teenagers or young adults who are crazy about using the latest technological devices" (Senaratne, 2017). Eventually due to this phenomenon, while some of the previous vocabulary items gradually diminished, a huge number of new items have been added to SLE. Moreover, these new items can be discovered in various fields in society under morphological or word formation processes. The present study brings out the SLE

morphological processes found in Nimmi Harasgama's YouTube videos; "Aunty Netta". The rationale behind choosing Auntie Netta's videos is her Sri Lankan language roots and the time durations of her videos that date back around 12 years which gave the ability to view the language changes analytically. In the light of the selected videos, the current study attempts to seek addresses to identify and analyze morphological processes related to SLE and to identify how words are formed in Sri Lankan context to make a new variety of SLE by using different morphological processes. Moreover, with regard to the constant growth of SLE the present study also emphasizes the new word formation, as it is an "institutionalized and a developing variety of English" (Kachru, 1985). The study also tries to uncover the most productive word formation process while investigating how language changes with current trends.

2. Methodology

Accordingly, a qualitative content analysis was conducted since the data source used is a YouTube channel. Eight videos and four morphological processes were chosen by considering the availability of examples in the videos. The videos were 'Netta loves biriyani', 'Put a chat with Aunty Netta- Harsha De Silva', 'Put a chat with Aunty Netta- Sunil Perera', 'Social Distancing Advice from Auntie Netta', 'Christman feast with Aunty Netta', 'Vegetroubles with Aunty Netta' and finally 'Aunty Netta interviewed on BBC Asian network'. Respectively, various theoretical frameworks were employed to each morphological process. Thus, to fulfill the expected research objectives, after identifying the SLE features from the selected videos, they were classified according to the four morphological processes borrowing, compounding, affixation and reduplication by discovering their etymology and linguistic features further.

3. Literature Review

Language change occurs over centuries due to various reasons. As a result of that, structures and vocabulary tend to change. These changes can include multiple morphological processes such as borrowings, meaning and structural changes, coinages and many more. This evolution is a natural process that any language could possibly undergo.

In fact, according to Haugen (1950), borrowing is a process in which the attempted reproduction in one language of patterns previously found in another. Haugen (1950) further classifies borrowing as loanwords, loan shifts and loan blends which also have been used as the major classification of the current study's borrowings. When considering borrowings in SLE, "it includes words from British English, Sinhala, Tamil, Hindi, Dutch, Portuguese" (Meyler, 2009) and they reflect Sri Lankan cultural background. According to the classification brought out by Haugen (1950), he divides borrowings to loan words, loan blends ("slip in part or all of a native morpheme for some part of the foreign [word]", and to loan shifts ("morphemic substitution without importation, and includes Loan Translations and Semantic Loans").

Gunsekere (2010) states that compounding is a tendency of South Asian Englishes in word formation and a "productive process in Sri Lankan English" (Gunsekere, 2005). Gunsekere (2010) further explains that borrowing of compounds from Sinhalese or Tamil, forming of compounds with two English words, and forming of compounds with one word in Sinhalese or Tamil and the other in English can be identified in SLE.

With reference to affixation, Baugh (1935) states that "another method of enlarging the vocabulary is by appending familiar prefixes and suffixes to existing words on the pattern of similar words in the language". As a current

trend, “application of English affixes to Sinhala words has formed unusual and unique lexical items” (Fernando, 2012).

Finally, “the process of Reduplication is a linguistic characteristic associated with South Asian Languages” (Kachru, 1986) where the repetition of all or a part of the root stem to form a new word can be identified. So that, the repetition of all or a part of the root stem to form a new word can be identified as reduplication; “hence, repetitions of words and phrases are extremely common with every competent bilingual speaker in Sri Lanka (Senaratne, 2009).

Thus, the present study seeks out to portray the morphological processes that continuously add and create new words in Sri Lankan English vocabulary through the evidence provided by the chosen content creator ‘Aunty Netta’ by Nimmi Harasgama.

4. Findings And Discussion

A. Borrowings

1) *Loan Words*: When focusing on the gathered data, this section contains four parts as borrowing, compounding, affixation and reduplication and this section elaborates the use of borrowing through Einar Haugen’s terminology of borrowing. In fact, three major types of lexical borrowings were identified as loanwords, loan blends and loan shifts. Just as Meyler (2009) stated the study has also identified loan words, from different languages such as Sinhala, Tamil, Persian, and Malay. Many of the loanwords found were mostly nouns. It included food terms such as “buriyani”, “karapincha”, “watalappan”, religion names; “Muslim”, names for cloths as “sarong” and Sinhala and Tamil expressions such as “aiyo”, “kadaule”, “niyamai”. It is notable that terms such as “nice aney” with English + Sinhala expressions were also found.

Table 1. Loan Words

Field	Term	Meaning	Language of origin
Food	Karapinch a	Curry leaves which is used as a food flavor ingredient	Sinhala
	Buriyani	A traditional dish made by the Muslim community	Persian
	Watalapp an	Vattil(cup) + Appam (cake) a dessert made by Muslims	Tamil
Ethnicities	Muslim	An ethnic group	Arabic
Cloths	Sarong	A simple men’s wear	Malay
Expressions	Aiyo	“Used to express any kind of emotion; negative, positive or fearful” (Gunasekera, 2005)	Sinhala / Tamil
	Nice aney	Used as a positive compliment	English + Sinhala
	Niyamai		Sinhala
	Kadauley	Referring to God in negative and positive emotions	Tamil

2) *Loan Bends*: Moving on to loan blends, it is categorized into 3 subsections as, blended stem, blended derivative and blended compounds. Blended stem is found in words such as “bailas” where “the Sinhala stems are

blended with the English regular plural suffix / - s /" (Fernando, 2012). Considering blended derivative which "the derivational suffix / - fy / generates a small number of verbs" (Fernando, 2012) were found in the verbs such as "sweetyfy" and "mirikanafying". Finally, blended compounds such as "jambu stealer" were found which portrays the "blending of 2 or more stems from different languages" (Fernando 2012). It shows a morphemic substitution, where the 'stealer' (E) is substituted for the S/T equivalents.

Table 2. Loan Bends

Type of loan blend	Field	Term	Meaning	Language of origin
Blended stem	Performing arts	Bailas	"Refers to Portuguese folk dancing in towns along the seacoast" (Gunasekera, 2005)	S+E plural suffix
Blended derivative	Culinary	Sweetyfy	Enhancing the taste of a food or drink.	E adjective + E derivational suffix -fy
		mirikanafying	Extracting a liquid from something by compressing or twisting it firmly.	S verb + E derivational suffixes -fy + -ing

Blended compound	Transgression	Jambu stealer	Someone who takes rose apples without permission	S noun + E noun
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3) *Loan Shifts*: Loan shifts can be introduced as the final subsection identified under borrowings which also contains two subsections as loan translations and semantic loans. Considering the present study only loan translations were found. Thus, the SLE compound "milk toffee" was identified where the morphemes in the Sinhala compound "kiri topi" are substituted with the two English translation equivalents 'milk' and 'toffee'.

B. Compounds

Formation of compounds with two words is yet another morphological process that was observed through the study. According to Gunasekera (2005), compounding is a productive morphological process in Sri Lankan English which undergoes a rule in order to create new neologisms from the Sinhala and Tamil or foreign languages.

Spencer (1991) states that this rule is a crucial part in productivity as it is regularly and actively used in the creation of new words. For instance, COVID-19, vege-trouble (vegetable + trouble) can be taken into consideration. Hence, new combinations and frequency of new words maintains the productivity within a language. Moreover, it is obvious that compounds are produced by Sri Lankan bilinguals who borrow the term from the same or another language in order to create neologisms and nativized foreign terms through the language contact situation. In fact, some compounds are directly Sinhala nouns which are borrowed as Sinhala compound nouns: for example: lunu dehi, pol sambola.

Apart from that, some compounds are created frequently through the direct translation of Sinhala meaning into English. For that compounds such as Nextdoor neighbour, boy girl, milk toffee, cousin sister, blue colour can be highlighted. Here, it is visible that both nouns and adjectives have been used. Thus, many hybrid compounds are created in either formation of Sinhala/ Tamil + English.

Table 3. Compounds

Language of origin	Term	Meaning
S + S	Lunu dehi	"Refers to the flavor or essence of an item of food" (Gunasekera, 2005).
S + M	Pol sambol	A mixture made of onions, chilies, lime and coconut eaten with either rice, bread, roti etc.
E + E	Cousin sister	"Used to denote kinship and gender" (Gunasekera, 2005).
	Next-door neighbor	A person living next door to the speaker or person referred to.
	Blue color	The color "blue"
S + E	Aney darling	An affectionate form of address or expression to a beloved person.
	Polkudu accent	Native like English accent imitated by nonnatives, which sounds strange
	Gedara food	Homemade food
E + S	Fatty bole	An affectionate term used on a fat person

C. Affixation

Findings on affixation are employed with the terminology introduced by Gunasekera (2005). Thus, double suffixes are identified in the words such as "karakarafying" and "mirikanafying" where the two suffixes -fy and -ing being added to Sinhalese terms to form verbs. Moreover, in words such as "godeyish"

and "seafoodish", "the affix -ish can be also identified under affixation which have been used to create 'new' words.

Table 4. Affixation

Suffix	Term	Meaning
-fy + -ing	Karakarafying	Cook (food) in hot fat or oil, typically in a shallow pan.
	Mirikanafying	Extracting a liquid from something by compressing or twisting it firmly.
-ish	Godeyish	"A derogatory classist adjective in Sri Lankan English" (Gunasekera, 2012).
	Seafoodish	Fish and sea creatures that can be eaten, especially shellfish.

D. Reduplication

Moreover, 'Aunti Netta' tried to express the meaning of the idea through repetition; thus, reduplication was noticed when the root stem was fully or partially repeated. Thus, the final morphological process reduplication can be highlighted according to two subsections as total reduplication and partial reduplication. Total reduplication was found in the Sinhala, Tamil and English words expressing commands and emotions such as "karas karas", "apade apade" and "no no" where the repetition of an entire word stem, root or word can be seen. Thus, it depicts that "the reduplicating pattern is employed for emphasis (Senaratne, 2009). On the contrary partial reduplication was identified in the words such as "yakada pakada", "virus birus" and "hangy bangy" where the reduplication is only in part of the word. Some of the detailed examples can be stated as below.

Table 5. Total Reduplication

Term	Meaning	Language of origin
Apade apade	An expression that gives the meaning "Is that so?" in English	Tamil
Hot hot chocky	A hot beverage made by mixing water or milk with chocolate powder.	English
Karas karas	Meaning crispy or crunchy	Sinhala
No no	Used to portray a negative response	English

Table 6. Partial Reduplication

Term	Meaning	Language of origin
Yakada pakada	Referred to metal. Something with steel.	Sinhala
Virus birus	An infective agent	English
Dadin bidin	Means something falling. Onomatopoeic showing the sounds of something/ someone falling with a loud noise	Sinhala
Hangy mangy	The general act of "hanging out."	English

5. Conclusion

The present study exemplifies some of the major trends found in SLE morphology. In fact, borrowings from various language roots accommodate the largest number of entries in SLE compared to other morphological processes. It is evident that the present SLE vocabulary has gradually extended by generating strategies in producing new vocabulary items. This study throws light towards the connection between language and society and the gradual language change that occurs with the advancement of society. The identified morphological processes highlight that the usage of SLE has a rapid growth within the Sri Lankan community by now. Thus, the expansion of SLE vocabulary can be discovered

as a process created to respond to these demands and needs. Present study identified that those new items are visible mostly in the spoken context but not in written contexts. Therefore, wide scale investigations are essential to codify the SLE vocabulary.

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Abbreviations and Specific Symbols

SLE – Sri lankan English

Authors Biography



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Architecting the Nation from Ceylon to Sri Lanka, and the Role of the Evil Other

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Abstract: *Nation narration is instrumental in the process of nation building, and diverse narratives disseminated by leading political figures of Sri Lanka have had significant impact on shaping the national identity of the country. However, in the process of nation building, these leaders have often constructed an other who, in most cases, is evil. The present study aims to investigate this phenomenon by analysing two texts produced at significant political junctures of Sri Lanka, namely, A Message to the Young Men of Ceylon by Anagarika Dharmapala (1922) and President's Speech to the Parliament on the defeat of LTTE by the former Sri Lankan President Mahinda Rajapaksa (2009), with a view to critiquing the theories and politics of nationalism, nation construction, and nation narration imbued in the two texts vis-à-vis the concept of the other (Bhabha, 1996) via an in-depth textual analysis. The key theories utilised in critiquing these are nation building and narration theories of Homi Bhabha (1990) and Frantz Fanon (1963). The analysis revealed that both narratives have created an other/s as a foil to the homogenous Sri Lankan nation the speakers envisioned, which poses a threat to the implied unified nature of the nation.*

Keywords: *Nation narration, Nation building, us vs. the other dichotomy, Anagarika Dharmapala, Mahinda Rajapaksa, Sri Lanka*

'How can we validate history's accuracy if we were not present at the given period of time?'

'From the accepted chronicles.'

'The chronicles?'

'The Mahavamsa.'

(Wijesinghe, 2009)

1. Introduction

Nation building is an umbrella term that covers a multitude of processes including social, institutional, political, linguistic, and ideological processes, and nation building narratives play a significant role in the process of constructing a nation. With the aim of creating a general identity for a nation, the nationalist school essentially utilises visible manifestations and characteristics of nations, and attempts to create a homogenous society which often results in the exclusion of ethnic minorities via practices such as adoption of state languages and religions (Utz, 2005; Tilly et al., 1975). Furthermore, these narratives are "a specific type of 'social narratives,' namely, narratives that are 'embraced by a group and also tell, in one way or another, something about that group'" (Malonea et al., 2017, p. 2), which are often used as means of mobilising masses for purposes such as war and revolutions by providing heavily mediated versions of history or "myths and distorted interpretations of the past" (Grever & van der Vlies, 2017, p. 286).

Analysing nation building narratives is important not only for understanding particular social movements, but also for identifying specific (at times obscure) political purposes behind them such as creating dichotomies of division such as us vs. the evil other. In defining Sri Lanka (former Ceylon) as a nation, the above practice has been utilised particularly in the events leading up to Independence as well as in the post-Independence context. Hence, as a preliminary for a larger study on the nation building narratives of Sri Lanka, the present research focuses on analysing two significant texts that were produced during two different historic moments of social upheaval in Sri Lanka. *A Message to the Young Men of Ceylon* by Anagarika Dharmapala (1922) and *President's Speech to the Parliament on the defeat of LTTE* by the former Sri Lankan President Mahinda Rajapaksa (2009) are both driven by a sense of nationalism as each was delivered at a significant milestone in Sri Lankan history. Originally written in 1922, Dharmapala's article aims at germinating the conscience of 'young men of Ceylon' with a strong sense of nationalism through its vitriolic criticism of imperialism, and the narration of an alternative history, with a view to motivating them to fight against the British imperial authority and demand independence. Mahinda Rajapaksa's (2009) speech, on the other hand, was delivered more than half a century later marking the end of the 30 year civil war against the Liberation Tigers of Tamil Eelam (LTTE). The speech attempts to reiterate the spirit of nationalism in the post-war context.

The present comparative analysis intends to critique the theories and politics of nationalism, nation construction, and nation narration imbued in the two texts vis-à-vis the concept of the other. The key theories utilised in critiquing these are nation building and narration theories of Homi Bhabha (1990) and

Frantz Fanon (1963). The first part of the study focuses on the foundations of nationalism found in the two essays, and the second part delves deeper into the intricacies of constructing and deconstructing nation narrations and the evil other, before presenting the conclusion.

2. Methodology

The present study is a comparative as well as an in-depth textual analysis of the texts *A Message to the Young Men of Ceylon* by Anagarika Dharmapala (1922) and *President's Speech to the Parliament on the defeat of LTTE* by the former Sri Lankan President Mahinda Rajapaksa (2009). Based on a close reading of the texts, a textual analysis was conducted in order to identify theories and politics of nationalism, nation construction, and elements of nation narration embedded in them, and the role of the other. The theories used in the analysis are Homi Bhabha's (1990) concept of the 'other'; and nation building and narration theories of Homi Bhabha (presented in *Nation and Narration*) and Frantz Fanon (1963) (presented in *The Wretched of the Earth*).

3. Foundations of Nationalism: Imaginary Cornerstones

Nation building myths, nationalistic icons and symbols, and revolutionary spirit are amongst the key elements on which the concept of modern nationalism is based, and the current study proposes that in creating the abstract, yet powerful concept of nation these elements act as the imaginary corner-stones.

Similar to many other colonised countries, Sri Lanka also felt the need for independence after the Second World War, and Anagarika Dharmapala was a pioneer among the native intellectuals who led the struggle for freedom. Written with a view to exposing the underbelly of the British Empire and why Sri Lankans need to rebel against its rule, his writing

denotes a clear understanding of the mechanisms of imperialism, and the dire need for Ceylon to emerge as a modern 'nation'.

As defined by Homi Bhabha (1990), nationalism is "an idea whose cultural compulsion lies in the impossible unity of the nation as a symbolic force" (p. 1) and a mind-forged concept whose origins are lost in the myths of time. He also argues that the concept of nation engenders an "ambivalence that emerges from a growing awareness that, despite the certainty with which historians speak of the 'origins' of nation as a sign of the 'modernity' of society, the cultural temporality of the nation inscribes a much more transitional social reality" (Bhabha, 1990, p. 1).

True to this idea, Dharmapala's (1922) attempts at constructing a nation for his people begin with nation building myths and a call for presenting Sri Lankans as a unified entity. He celebrates a glorious pre-colonial past providing his audience with "a sense of shared origins, a common past and a collective identity in the present" (McLeod, 2000, p. 70). When focusing on the intended audience of his writing, it is clear that he is addressing a group of English educated, Sinhala Buddhist men. It can be argued that the modern Sri Lankan nation Dharmapala (1922) envisioned consisted of a homogenous entity (primarily consisting educated Sinhala Buddhist men) brought together by a shared ancestry, colonial experience, racial identity, and religion. Such essentializing of a country's people in constructing a nation invariably puts in motion practices of inclusion and exclusion given that Ceylon was never a country populated only by Sinhala Buddhists (only males, to make it even more exclusive). Though nationalism was essential in fighting against the empire, this kind of exclusion of other ethnic, religious, and gender groups flaws the concept at its very inception, the consequences of which Sri Lanka suffers to date.

In his narration of the nation, Dharmapala traces the origins of his people to the Lion myth, and the arrival of Vijaya, "We Sinhalese should remember that our ancestors came from Lada...the Sinhalese are an Indian race" (1992, 1961, p. 501), and closely follows the story recorded in the *Mahavamsa* which is believed to be the official historical record of the country. As in any other 'official' or dominant narrative of history, *Mahavamsa* also validates no other version than the historical accounts documented in it. Dharmapala further claims that "our first king, Vijaya, left no issue..." (p. 2) immediately invalidating the alternative story of Vijaya and Kuveni whose children, Jeewahatta and Disala, are recorded in the folklore of Sri Lanka (Siddhisena, 2011). The elimination of Kuveni from this narrative silences an entire population, i.e., the *Yakkha people* or the natives of the country who had inhabited Sri Lanka long before Vijaya's arrival, along with their histories. This evidences Fanon's (1963) view on the colonial practice of dehumanizing the native inhabitants, where he claims that in the process of colonisation, the imperialists project the colonized as savages who need to be changed, educated, and civilised to become more like the colonizers. However, it is rather ironic to witness Dharmapala's decision of bringing up another colonial narrative (because 'Vijaya, the conqueror,' and his people were also colonisers) in his attempt to contest the imperialist narratives and governance imposed on Sri Lanka by the British. Yet, it is not surprising because ancient colonial enterprise has successfully normalised the idea that the modern Sinhala people are direct descendants of Vijaya.

A similar strategy of sacred modernity (Jazeel, 2016) is seen in Mahinda Rajapaksa's (2009) speech as well where he refers to former greatness and kings of Sri Lanka.

"We are a country with a long history where we saw the reign of 182 kings who ruled with pride and honour that extended for more than 2,500 years. This is a country where kings such as Dutugemunu, Valagamba, Dhatusena and Vijayabahu defeated enemy invasions and ensured our freedom.

As much as Mother Lanka fought against invaders such as Ditiya, Pitiya, Palayamara, Siva and Elara in the past, we have the experience of having fought the Portuguese, Dutch and British who established empires in the world. As much as the great kings such as Mayadunne, Rajasingha I and Vimaladharmasuriya, it is necessary to also recall the great heroes such as Keppetipola and PuranAppu who fought with such valour against imperialism." (Rajapaksa, 2009, para. 10 & 11).

The victory of war against the LTTE is thus linked with figures and events from the past which serve as nationalist icons and symbols that enable the performance of a 'national culture'. McLeod (2000) writes that "Nations are often underwritten by the positing of a common historical archive that enshrines the common past of a collective people," and that the celebration of nationalist icons "helps cement the people's relationship with their past as well as highlight their togetherness in the present by gathering around one emotive symbol..." (p. 70). Evidently, Rajapaksa's (2009) intention here is to make all people of the country identify with this particular version of history. Despite attempting to be a little more inclusive of than Dharmapala's (1992) article by addressing the people both in Sinhala and Tamil languages (at least partially), Rajapaksa's (2009) nation narration, too, posits ancient Sinhala Buddhist kings and freedom fighters as the common icons of nationalism allowing the 'sacred' past to relive in the present and vice versa. However, to a multi-ethnic and multi-religious

country like Sri Lanka, these icons are hardly applicable as 'common' because all monarchs mentioned by Rajapaksa are Sinhala Buddhist kings.

However, what is lacking here is a broader vision and mission for the nation since the address stops at glorifying past and present war victories. In *The Wretched of the Earth* Fanon (1961/1963) identifies four stages of national culture development, and glorification of the past, which is identified as its second phase, is criticised as it prevents active engagement in realising the true national goals.

Dharmapala's (1992) article does both these to a greater extent. He advocates mobilising against the imperialists by denouncing their values as well as refraining from practising various 'evils' introduced by them.

He insists on making an independent economy, "We must learn to stand on our legs and not depend on the alien. We must revive our industries, give work to our countrymen first before we feed the distant Austrian and Belgian who supply us with his manufactures..." (p. 511), and building the national character and values "Every nation has its own individualising temperament...We should...make the most earnest effort to organise our resources and get our people to contribute each his mite for the emancipation of our people from ignorance" (p. 515) in addition to upholding the temperance movement etc. Sharpened by the revolutionary edge, Dharmapala's vision and mission for the emerging nation is clearly visible. Here, unlike when his 'othering' led to internal divisions, he created the dichotomy of 'us and the other/enemy' in order to drive Sri Lankans to achieving the goals of independence as a unified nation. In this instance, the British are projected as the evil other, i.e., the other who is capable of harming the nation.

At the same time, contrary to Fanon's (1961/1963) theories of linear phases of national culture creation, Dharmapala's (1922) views bear evidence to the fact that the creation of a national culture is never essentially linear, or the phases have clear demarcations between them. Dharmapala comes from a group of native intellectuals who had assimilated to the British values and systems, but simultaneously aware of their own cultural heritage and history, and also actively engaged in the struggle for independence which included a mix of the assimilation, championing of the native culture, and fighting the empire.

In Rajapaksa's (2009) speech, however, the radical, activist edge is dulled, and the enemy is seen within the country, "There are only two peoples in this country. One is the people that love this country. The other comprises the small groups that have no love for the land of their birth" (Rajapaksa, 2009). As opposed to Dharmapala's (1922) essay, Rajapaksa (ibid.) stresses that the nation no longer marginalises ethnic 'minorities', but his new dichotomy consists of patriots and non-patriots. Outwardly this would seem progressive, but in reality, what happened was while people who followed the political vision, decisions etc. of the Rajapaksa regime were labelled patriots, the slightest dissent was enough to label any opposition or different opinion holder as a non-patriot, i.e., the evil other. The political nuances of Rajapakse's categorization imply that anyone who does not subscribe to his ideologies is a person who opposes the entire nation and its development, and therefore, an outcast. It further implies that in the absence of the LTTE, the role of the common enemy or the evil other is transferred to such political troublemakers or anyone who questions the Rajapakse regime. This exemplifies another danger behind nation narration and the dichotomies involved in the process, namely,

the emergence of a political monopoly or dictatorship.

4. Deconstructing Nation Narratives: Cupboards Under The Stairs and Crumbling Walls

As the title suggests, the construction and deconstruction of nation is a liminal process where certain tropes of nationalism, pedagogical and performative representations, and creation of the other, for instance, set in motion an ambivalence which challenges the idealistic notion of the nation as a static, homogenous entity.

John McLeod (2000) states that "anti-colonial nationalisms promised a new dawn of independence and political self-determination for colonised people", and this is only a partial truth vis-à-vis the actual practice of anti-colonial nationalisms as 'independence and political self-determination' were enjoyed mainly by the male members of a dominant culture and not by everybody who had been oppressed by colonialism. For them, it was a form of neo-colonisation. Herein lay the initial points of conflict of Sri Lanka's ethnic tensions. The erasure of other ethnic and religious groups from its nation narratives by the majority of Sinhala Buddhists paved the way to the 30 year civil war led by Tamil separatists. This construction of otherness in establishing certain nation narratives generates internal conflict.

In his speech Rajapaksa (2009) states that "The LTTE began the march to own half this country..." but does not explore the reasons that enabled the fight for a Tamil Eelam. When he claims "What terrorism draws from politics is racism", a perverse audience aware of the mechanics of nation building may point out that it could be vice versa, i.e., racist politics engendering terrorism, which could easily be linked to the nation narrative propelled by freedom fighters like Dharmapala. This is not

to underestimate what he did, but to highlight that his project of nation building has fallen into a pitfall forewarned by Fanon (1961/1963) in his seminal work *The Wretched of the Earth*,

“National consciousness, instead of being the all-embracing crystallization of the innermost hopes of the whole people, instead of being the immediate and most obvious result of the mobilization of the people, will be in any case only an empty shell, a crude and fragile travesty of what it might have been...when dealing with young and independent nations, the nation is passed over for the race, and the tribe is preferred to the state.” (Fanon, 1961/1963, pp. 148-149).

Thus, when the dominant nation narratives of Sri Lanka gave prominence to one race and religion, they displaced the other narratives and ethnic groups, which led to the need for the marginalised to look for an alternative nationalism. Rajapaksa (2009) acknowledges this by saying, “...terrorists had gone much further than anyone had believed possible. As a massive international organization...” When examining the strategies employed by the LTTE in expanding their struggle to the international level, certain similarities can be detected in their methods and the pan national movement of resistance advocated by the Negritude movement, where people were “united more by their shared experience of oppression than by their essential qualities” and vice versa (McLeod, 2000, p. 80). The LTTE projected themselves not as terrorists but as a marginalized group of people fighting against an oppressive regime, and appealed to the Tamil people around the globe to support their ‘national’ cause.

According to Fanon (1961/1963), when ‘the nation is passed over for the race, and the tribe is preferred to the state’, there will be multiple ‘nationalisms’ which divide the population of a

country than the intended singular ‘nationalism’ that is supposed to unite all the people of a country. The end result of the emergence of nationalism tends to boil down to separatism where each ‘nation’ demands a separate state which in turn threatens the territorial integrity of the newly independent country. This could also be interpreted as part of the resistance movement in countries including Africa and India where the mapping of the country was done arbitrarily according to the whims of the colonialists. But the question is how effective is this for Sri Lanka, and do people need to turn fighting against the empire into fighting amongst themselves, and ultimately disintegrate? If yes, then what happens to the initial concept of nationalism?

As Homi Bhabha in his 1990 article *DissemiNation: time, narrative, and the margins of the modern nation* theorises, this tension between the pedagogic and performative representations of nation narration as instrumental in eventually leading to the dissemination of the nation,

“In the production of the nation as narration there is a split between the continuist, accumulative temporality of the pedagogical, and the repetitious, recursive strategy of the performative. It is through this process of splitting that the conceptual ambivalence of modern society becomes the site of writing the nation.” (p. 297).

As per Bhabha’s (ibid.) argument, nation narration is an ambivalent process where the people of a nation are simultaneously subjects and objects. In the operation of the pedagogic, a dominant narrative of a common origin, plight or set of symbols is presented as the archive from which the people of the nation can draw nationalistic inspiration, but in the performative, the people of the nation are given a certain agency of active participation in repeating, reiterating and thus contributing to

the continuation of that particular dominant nation narrative. However, this also enables the othered or marginalized groups within the nation's population who are closeted in cupboards under the stairs to voice and demonstrate their differences by not complying with the repetitions the dominant narrative. A case in point from contemporary Sri Lanka would be the issue of the National Anthem, where the voice of the marginalised people was recognized when the Tamil version of the Anthem was accepted despite the nationalist call for keeping the Anthem written in Sinhala as one symbol of this 'homogenous' nation.

This crumbling down of the walls of nationalism could be seen in varied perspectives, and the most positive of those is the way in which it enables the concept of the nation to break free (at least to some extent) from the myth of homogeneity. It calls for a timely change of symbols and reasons that make the people of a country become a nation through finding symbols, common factors and reasons beyond ethnicity, class, religion etc. If nationalism attempts to closet all diversity, different voices etc. confined to the cupboards under the stairs, this act itself prompts crumbling of the nationalist structure since the closeted or oppressed groups will find alternate means of making themselves heard. Also, a nation cannot perform its national culture unless all people in it are actively engaged. Thus, the performative challenges the pedagogic and their simultaneous existence and ambivalent relationship constantly re-shape the nation.

5. Conclusion

It is evident that most of the elements in shaping nationalism and nation still remain though Sri Lanka has moved a long way since when it was known as Ceylon. Nation building and nation narration as a mode of subversion

in rejecting colonisation has been undoubtedly effective, but as the analysis shows, it has also created many problems and tensions within the country, especially in contemporary times where its initial revolutionary motive is not present and the evil other or the enemy is increasingly found from within the nation itself. While this calls for a redefinition of nation where the nation is seen not as a static, homogenous entity, but as a liminal sphere which needs to be more inclusive and ready to adapt according to the changing times, it also highlights the need to redefine national goals and the avoidance of creating enemies from within the nation that could rupture the nation.

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Assessment of the knowledge and the use of Metacognitive reading strategies among ESL learners

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Abstract: Metacognitive awareness can be categorized as one of the most influential strategies in developing effective readers. It becomes very useful for university undergraduates as they are expected to involve in extensive reading for their academic activities. Further, this enhances the learner autonomy and critical thinking skills. Hence, the current study aimed to assess the awareness and the use of metacognitive strategies among the selected sample of ESL learners in Sri-Lankan Universities. The online survey has been carried out as a descriptive cross-sectional study. An online questionnaire developed in English was used to gather data. The questionnaire has been shared on social media platforms for a period of two weeks. The questionnaire comprised of two sections, one focused on demographic information, and a separate section was allocated for the metacognitive Awareness of Reading Strategies Inventory (MARSI). Informed consent of the participants was obtained before the data collection. The data analysis was performed using SPSS 23.0, including the descriptive statistics, independent sample t-test and Turkey Post hoc test on one-way ANOVA. Majority of the participants were female (62.9%; n=83) Law undergraduates. With regard to the self-evaluation, majority of the study participants (51.5%; n=68) were identified as average readers. The study findings have revealed that the mean values of the GRS, PSS and SRS were at a level of medium. Hence, it

is recommended to make necessary interventions to understand awareness of metacognitive strategies of reading among the university undergraduates. It will also be useful in implementing new strategies in language teaching, planning and helping the students to improve their critical thinking skills and mindfulness.

Keywords: Metacognitive awareness, Undergraduates, Reading skills

1. Introduction

The tertiary education expects a student to master the skills in comprehending, understanding, monitoring, critically evaluating and synthesizing when reading a text in the academic context. Further, they need to be in a position to go beyond the surface meaning, interpret and critically analyze the texts with their own perspective (Maasum and Maarof, 2012). Hence, improving the strategies for effective reading is of a greater significance for the university undergraduates. Many research studies conducted over the past years regarding the English language learners' knowledge on influential reading strategies, have proven that there is a deficiency in their knowledge regarding effective reading strategies necessary for academic purposes (Maasum and Maarof, 2012).

Improving the reading skills in English among the second language (ESL) learners has gained much attention among the instructors and the researchers and they constantly focus on exploring effective strategies to develop the reading skills of the students (Albiladi, 2019). Further, many researchers have identified reading as the most influential mechanism to allow the English Language learners to enhance the other language competencies like writing, improving the vocabulary and speaking (Mason and Krashen, 1997). Therefore, developing the reading skills of the English language learners play a significant role in enhancing the written and speaking competencies (Horwitz, 2012).

Metacognition becomes a strong force in raising awareness among the students on their own strengths and weaknesses as readers, learners and writers. Further, it enables the students to improve their critical thinking and logical reasoning (Medina, Castleberry and Persky, 2017). Researches have attempted to highlight the significance of metacognitive awareness in reading texts written in both native and second language. The strategic awareness and the ability to monitor the comprehension are regarded as crucial elements in skillful reading (Sheorey and Mokhtari, 2001).

Metacognitive awareness can be categorized as one of the most influential strategies in developing effective readers. It becomes very useful for the university undergraduates as they are expected to involve in extensive reading for their academic activities, and they should be capable enough to explore knowledge beyond the surface meaning. As large proportion of their syllabus comprise of English medium study materials it is of paramount importance that they master the skills of effective reading strategies. Even though there is plenty of research done regarding second language reading, there is a

limited number of studies conducted to examine the metacognitive reading strategies among the university students, especially with regard to the Sri-Lankan context. Hence, the current study aimed to assess the awareness and the use of metacognitive strategies among the selected sample of ESL learners in Sri-Lankan Universities. And the results of this study will be highly benefited in understanding the level of their awareness and in designing the curricula with modifications to improve the skills of reading among university undergraduates. It will also be useful in implementing new strategies in language teaching, planning and helping the students to improve their critical thinking skills and mindfulness. Obtaining a comprehensive knowledge regarding the students use and awareness on Metacognitive strategies is the key to successful designing of lesson plans and class room activities that can improve the reading skills of the ESL learners. Moreover, it can enlighten the language teachers regarding the preferences of the students regarding the strategies implemented. The study findings can broaden the language teacher's awareness on the areas the undergraduates need improvement in becoming effective readers and scholars with critical thinking skills.

2. Literature Review

Majority of the research conducted over the past years on English language teaching and learning has stressed on the significance of improving the reading skills of language learners. Further, researches strongly believe that improving the reading skills of the ESL learners is of a greater use for them to enhance their capacities of other language skills (Albiladi, 2018). According to Horwitz (2012) reading is classified as the core skill to be improved when achieving the competency in the second language. Reading enriches the language learner with multiple benefits than the learners who master the other skills.

Improving the reading skills is a key to successful academic and professional career (Altin and Saracaloğlu, 2018).

Language learners are motivated in enhancing their skills of reading as it becomes a facilitator for the advancement of other skills (Haupt, 2015). Several studies were conducted to assess the various reading strategies that can effectively be implemented among the ESL learners (Nordin et al., 2013). The researchers have defined the strategies employed in reading as thoughtful, goal-oriented efforts to regulate and modify the readers attempts to comprehend the meaning, understand and decode a text. Further, researches have pointed out several elements related to the usage of those strategies such as gender, genre of the text, text type, purpose and the level of proficiency in the reader (Afflerbach, Pearson and Paris, 2008).

Metacognition was introduced in 1970's by Flavell and it has begun to play a very significant role in the research studies related to education (Baker, 1989). It emphasized on the mechanisms through which the readers plan, repair and monitor the level of comprehension on their own. Generally, Metacognition is recognized as an intellectual activity dealing with the capacity of the individual to assess and order his learning procedure. Hence, Metacognition is identified as a very significant theory in the field of educational psychology and cognitive development (Jacobs and Paris, 1987). Due to the increasing significance of Metacognition, it has given birth to various outlines for understanding and reading comprehension in research literature (Baker, 1989).

Metacognitive strategies pave the way for the reader to allocate important concern on evaluating, monitoring and controlling the reading process (Pressley, 2000). Studies conducted on successful reading strategies of

L1 and L2 have revealed that the success of a reading strategy depends on whether the strategy was utilized metacognitively (Jiménez, Garcia and Pearson, 1996). Several studies conducted on learners' metacognitive aspects of reading-strategy use had pointed out the fact that the readers with high levels of metacognitive awareness had proven to be successful readers than their peers who had low levels of metacognitive awareness (Zhang and Wu, 2009).

A research study has revealed that the unsuccessful learners do not possess the strategic awareness and the ability to monitor the process of comprehension. Garcia et al. (1998) Therefore the learners who are not successful have no proper understanding of their own cognitive process and they should be given constant guidance in utilizing effective reading strategies (Mokhtari, Dimitrov and Reichard, 2018). A study conducted by Barnett (1988) highlighted that there was a constructive relationship between reading comprehension and in the use of both perceived strategy and strategy use. The more the L2 learners employ effective reading strategies better they perform in terms of their level of comprehension. A qualitative study conducted by Auerbach and Paxton (1997) revealed that the L2 readers had a better awareness in engaging in metacognitive strategies for comprehending the texts than those who were focusing on the text at sentence level. This study revealed that there is a strong relationship among metacognitive awareness, strategy disposition and L2 reading (Salataci and Akyel, 2002).

A study was conducted in South Africa with a participation of 131 first year ESL learners undertaking a professional course at university. The findings of the study revealed that the students who had obtained strategic training instruction on the use of metacognitive reading strategies achieved

significantly higher marks in both statistical and practical aspects in reading comprehension tests than the students who were in the control group (Dreyer and Nel, 2003). The above-mentioned studies have highlighted on the significance of metacognitive strategies in developing learner to become efficient readers. It can clearly be stated that L2 readers metacognitive awareness plays a vital role in improving the reading skills of ESL learners.

3. Methodology

The present study was conducted as a descriptive cross-sectional study. An online questionnaire developed in English was shared on the social media networks (i.e., Facebook, WhatsApp, Viber) during a period of two weeks to receive the completed questionnaires. The study targeted on a group of ESL learners who represent different streams (Medicine, Engineering, Social Sciences, Law, Allied Health Sciences and Computing) in Sri-Lankan universities.

Moreover, the consent of the participants was taken before the collection of the data. The objectives of the study were explained to the participants through an online statement. The cultural appropriateness, comprehension and suitability of the scale were pre-tested through a pilot study. The pilot study has been carried out with the participation of ten undergraduates and they were excluded from the main study.

A questionnaire consisted of two sections (Section A and B) was used for the data collection of this study. Section A composed of questions regarding personal characteristics. Section B was metacognitive Awareness of Reading Strategies Inventory (MARSİ) which was designed by Mokhtari and Reichard (2000)(Mokhtari, Dimitrov and Reichard, 2018). The written permission to use MARSİ was obtained by the developers of the scale.

MARSİ is composed of 15 items and consisted of three dimensions which were related to Global Reading Strategies (GRS) (item 01,03,05,12,13), Problem Solving Strategies (PSS) (item 07,09,11,14,15) and Support Reading Strategies (SRS) (item 02,04,06,08,10). Cronbach's coefficient alpha for internal consistency reliability of the three documented subscales (GRS, PSS and SRS) ranged from 0.89 to 0.93, and score reliability for the total sample was 0.93, indicating reliable measures of metacognitive awareness of reading strategies (Mokhtari, Dimitrov and Reichard, 2018).

GRS primarily aims to set the favorable atmosphere for the act of reading (e.g., set the determination for reading, preview the content of the text, forecast what the text is about, etc.). When there are issues pertaining to understand the information of the text the PSS are used. This provides the reader a better understanding of the relevant text. SRS, plays a vital role as a supportive tool in achieving sustainable responsiveness to reading. For instance, when using dictionaries and other useful supportive documents. Therefore, the aforementioned strategies combine and support each other effectively in the process of meaningful reading of a text (Mokhtari, Dimitrov and Reichard, 2018).

The items of the inventory were assessed using a Likert scale which ranged from 1 (I never or almost never use this strategy) to 5 (I always or almost always use this strategy) to identify the awareness. The metacognitive awareness of Reading Strategies was categorized into three levels according to the mean values received for each dimension (High (mean \geq 3.5), Medium (mean= 2.5-3.4), and Low (mean \leq 2.4) (Maasum and Maarof, 2012). Data was analyzed using SPSS 23.0, including the descriptive statistics, independent sample t-test and Turkey Post hoc test on one-way ANOVA.

4. Results

A. Socio Demographic Data

According to the results, the mean (\pm SD) age of the participants was 21.54 (\pm 1.79) years, and the majority of them were females (62.9%; n=83). Majority of the study population are Law undergraduates (44.7 %; n=59). When considering the self-evaluation of the participants, majority of them were average readers (51.5%; n=68) (Table 01).

Table 01. Personal Characteristics

Parameter		Status
Demographic Data		
Age	Mean	21.54
	Median	21.00
	Mode	21
	SD	1.792
Gender	Male	37.1%(n=49)
	Female	62.9%(n=83)
Academic Stream	Medicine	10.6%(n=14)
	Engineering	9.8%(n=13)
	Law	44.7%(n=59)
	Allied Health Sciences	17.4%(n=23)
	Social Sciences	12.1%(n=16)
	Computing	5.3%(n=7)
Academic Year	First	44.7%(n=59)
	Second	27.3%(n=36)
	Third	22.0%(n=29)
	Forth	6.1%(n=8)
Self-evaluation as a reader	An excellent reader	2.3%(n=3)
	A good reader	37.9%(n=50)
	An average reader	51.5%(n=68)
	A poor reader	8.3%(n=11)

B. Metacognitive Awareness of Reading Strategies

The mean values of the metacognitive awareness on GRS (2.80 ± 0.85), PSS (2.76 ± 0.97), SRS (2.77 ± 0.97) were at a level of medium. Hence, the overall mean on metacognitive awareness of reading strategies was also at a medium level (2.77 ± 0.76). As shown in Table 02, 25 (18.9%) students reported high use of metacognitive reading strategy, 56 (42.4%) students reported medium use, and 51 (38.6%) reported low strategy use.

Table 02. The students reported use of metacognitive reading strategy

	N	%	M	SD
High	25	18.9%	2.77	0.76
Medium	56	42.4%		
Low	51	38.6%		
Total	132	100.0%		

C. Comparison of Metacognitive Awareness of Reading Strategies scores among various participant characteristics

1) Awareness on Global Reading Strategies

When considering the awareness of GRS, there was no significant difference among the mean differences of males and females ($p=0.488$). Allied Health Sciences students had the highest mean (3.33 ± 0.794) on GRS among all the academic streams (Table 03). Further, there was a statistically significant difference between academic streams as determined by one-way ANOVA ($F(5,126) = 7.837, p = 0.000$). A Tukey post hoc test revealed that Engineering students had a significantly low awareness on GRS when compared to Law ($p=0.007$) and Allied Health Sciences students ($p=0.000$). Further, Law students had a significantly high awareness on GRS when compared to Engineering ($p=0.007$) and social

sciences students ($p=0.000$). Moreover, Allied Health Sciences students had a significantly high GRS when compared to Engineering ($p=0.000$) and social sciences ($p=0.000$) students. Social sciences students had a significantly low awareness on GRS when compared to Law ($p=0.002$) and Allied Health Sciences students ($p=0.000$). There was no significant difference on the awareness of GRS among academic years ($p>0.05$).

2) Awareness on Problem Solving Strategies

When considering the awareness of PSS, there was no significant difference among the mean differences of males and females ($p=0.353$). Computing students had the highest mean (4.52 ± 1.29) on PSS among all the academic streams (Table 03). Further, there was a statistically significant difference between academic streams as determined by one-way ANOVA ($F(5,126) = 6.808$, $p=0.000$). The Computing students had a significantly high awareness on PSS when compared to Medicine ($p=0.02$), Engineering ($p=0.000$), Law ($p=0.000$), Allied Health Sciences ($p=0.001$) and social sciences ($p=0.000$) students. However, there were no significant mean differences observed in other streams. There was no significant difference on the awareness of PSS among academic years ($p>0.05$).

Table 03. Metacognitive awareness of reading strategies according to the academic stream

		Mean	Std. Deviation
Mean GRS	Medicine	2.7000	.98215
	Engineering	2.1077	.39678
	Law	2.9288	.82693
	Allied Health Sciences	3.3304	.79455
	Social Sciences	2.1000	.44422

	Computing	3.0857	.30237
	Total	2.8015	.84582
Mean PSS	Medicine	2.9000	.46244
	Engineering	2.6923	.32265
	Law	2.5390	.94340
	Allied Health Sciences	2.9217	1.15481
	Social Sciences	2.5375	.35567
	Computing	4.5143	1.28508
	Total	2.7636	.96877
Mean SRS	Medicine	2.6143	.57359
	Engineering	2.4000	.43205
	Law	2.5492	1.00316
	Allied Health Sciences	2.9304	1.15146
	Social Sciences	3.2000	.51121
	Computing	4.0571	.90711
	Total	2.7667	.96919

3) Awareness on Support Reading Strategies

When considering the awareness of SRS, there was no significant difference among the mean differences of males and females ($p=0.075$). Computing students had the highest mean (4.06 ± 0.90) on SRS among all the academic streams (Table 03). Further, there was a statistically significant difference between academic streams as determined by one-way ANOVA ($F(5,126) = 4.932$, $p=0.000$). Computing students had a significantly high awareness on SRS when compared to Medicine ($p=0.010$), Engineering ($p=0.002$) and law students ($p=0.001$). When considering the awareness on SRS, there was a statistically significant difference between academic year as determined by one-way ANOVA ($F(5,126)$

=3.695, $p=0.014$). A Tukey post hoc test revealed that the awareness on SRS was significantly high among second year students when compared to first year students ($p=0.17$).

5. Discussion

The current study was conducted to assess the metacognitive awareness of reading strategies among ESL learners in Sri-Lankan Universities. The overall metacognitive awareness of reading strategies and the three dimensions of metacognitive awareness of reading strategies were at a medium level. Only 18.9% of the population had a high level of metacognitive awareness on reading strategies. However, a previous study conducted among freshmen majoring in an English Education Department, Indonesia has revealed that 51.6% of the total population had a high level of metacognitive awareness on reading strategies. Further, the overall mean of the study group was 3.52 ± 0.46 which indicates a high level in the reported use of metacognitive awareness on reading strategies (Dari and Noviahari, 2018). However, in the present study the participants' overall mean score on metacognitive awareness on reading strategies was 2.77 ± 0.76 which was medium. Furthermore, the GRS (2.80 ± 0.85) is the most used strategies by the students, followed by SRS (2.77 ± 0.97), and PSS (2.76 ± 0.97) in the present study. However, the similar study conducted among freshmen in Indonesia indicated that the PSS are the most used strategies ($M=3.84 \pm 0.57$), followed by GRS ($M=3.38 \pm 0.44$), and SRS ($M=3.35 \pm 0.57$) (Dari and Noviahari, 2018).

Moreover, similar studies have pointed out that their study samples utilize the metacognitive reading strategies efficiently and effectively in their learning process. Moreover, they had proper self-evaluation on the success of their own reading (Block, 1992). However, in the present study majority of the study participants (51.5%; $n=68$) were

identified as average readers and their use of metacognitive reading strategies remains at a medium level.

A study conducted in Malaysia based on 41 university undergraduates revealed a high overall mean score in all the categories in the MARS scale namely; Global ($M= 3.73$) Support ($M= 3.38$) and Problem solving ($M= 4.10$). (Maasum and Maarof, 2012). However, in the current study the mean values of the metacognitive awareness on GRS (2.80 ± 0.85), PSS (2.76 ± 0.97), SRS (2.77 ± 0.97) were at a medium level.

Moreover, in the current study the Allied Health Sciences students had the highest mean on GRS among all the academic streams while Social Sciences students had the lowest. Computing students had the highest mean on PSS while Social Sciences students had the lowest. Computing students had the highest mean on SRS among all the academic streams while Engineering had the lowest.

6. Recommendation

And the results of this study will be highly benefited in understanding the level of their awareness and in designing the curricula with modifications to improve the skills of reading among university undergraduates. It will also be useful in implementing new strategies in language teaching, planning and helping the students to improve their critical thinking skills and mindfulness. Obtaining a comprehensive knowledge regarding the students use and awareness on Metacognitive strategies is the key to successful designing of lesson plans and class room activities that can improve the reading skills of the ESL learners. Moreover, it can enlighten the language teachers regarding the preferences of the students regarding the strategies implemented. The study findings can broaden the language teacher's awareness on the areas the undergraduates need improvement in

becoming effective readers and scholars with critical thinking skills.

7. Conclusion

The study findings revealed that the mean values of the GRS, PSS and SRS were at a level of medium. Hence, the overall mean on metacognitive awareness of reading strategies was also at a medium level. Therefore, it is necessary to modify the university curricula in order to improve the reading skills of the undergraduates. When they become effective readers, they will be able to improve their capacity of innovative thinking. Further, it will also motivate the students to explore new knowledge in the field of their specialization. Once they master their reading skills it will automatically improve their skills of writing and speaking. Therefore, enhancing the awareness of the university undergraduates regarding the Metacognitive Strategies will be a precious investment for their academic progress.

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Acknowledgement

I gratefully acknowledge the participants of the study for their contribution and for their genuine feedback given to fulfil the objectives of this study.

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