BOOK OF ABSTRACTS

IntSym 2024

12th International Symposium and Industry Dialogue - 2024

ON

Digital Transformation for a Sustainable Future

29th February 2024

Organized by

South Eastern University of Sri Lanka

University Park, Oluvil, #32360

Sri Lanka

Conference Secretariat

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Message from the Vice Chancellor

As the Vice-Chancellor of the South Eastern University of Sri Lanka, I am delighted to extend my warmest greetings and welcome you to this critical and timely conference and glad to send this message to the Book of Abstracts for our 12th International Research Symposium on "Digital Transformation for a Sustainable Future."

The theme of the conference resonates deeply with us, as we recognize the pivotal role technology plays in shaping our world and addressing the significant challenges of our time. The digital revolution is transforming every facet of society, creating new opportunities while presenting complex challenges. This conference provides a valuable platform for experts, scholars, and practitioners from diverse fields to explore how we can harness the power of digital technologies to navigate towards a more sustainable future.

Here at South Eastern University, we are committed to fostering innovation and responsible technological advancement. We believe that universities have a crucial role to play in equipping future generations with the knowledge, skills, and critical thinking required to thrive in a digitally driven world. We are actively engaged in research and development projects related to sustainability, digital transformation, and inclusive societies.

This conference, with its esteemed speakers and diverse range of topics, promises to be an enriching experience for all participants. I encourage you to engage in open and collaborative discussions, share your valuable insights, and forge connections that will contribute to advancing sustainable solutions through digital transformation.

I am confident that the outcome of this conference will lead to tangible actions and innovative approaches that will benefit not only Sri Lanka, but also the global community.

I wish you all a productive and insightful conference.

Professor (Dr.) A. Rameez Ph.D. (NUS)
Vice Chancellor and Conference Chair
South Eastern University of Sri Lanka

Message from the Coordinator

I am honored and delighted to extend this message to the 12th International Research Symposium – 2024 hosted by the South Eastern University of Sri Lanka. The primary aim of this conference is to provide a forum for scholarly researchers to disseminate their findings and share cutting-edge insights in the various tracks.

The theme of this conference is **"Digital Transformation for a Sustainable Future."** Furthermore, the symposium will feature an industry dialogue session, providing a platform for industry leaders to share insights, discuss emerging trends, and explore collaborative opportunities for advancing sustainable business practices in the digital age. I believe that your expertise and contributions will enrich the dialogue and inspire actionable strategies for harnessing the power of digital transformation to build a more sustainable and resilient future for generations to come. The valuable feedback garnered from these discussions has the potential to propel research endeavors toward new horizons.

I extend my gratitude to Prof. A. Rameez, the Vice Chancellor of South Eastern University of Sri Lanka, for providing invaluable guidance throughout the conference. I would like to thank all the deans of the faculties, and heads of the departments for contributing to the success of this event. Furthermore, the victory of the conference is attributed to the exceptional collaboration, commitment, and skills contributed by both academic and non-academic members. Also, I sincerely appreciate the support rendered by the Registrar, Bursar and Librarian of SEUSL.

I should extend my thankfulness to Professor Kamal Bechkoum, PhD, BSc (Hons), FBCS, CITP Professor of Computer Science, Founder & CEO of Hi-Ed International HE Leadership | AI | CyberTech, Abertay University, Dundee, UK. for delivering keynote address in this conference which was well accepted and appreciated and Dr. MBM. Irshad, Editor-in-chief whose substantial contributions played a pivotal role in our rapid achievement. Further I have to thank the panel of experts Dr.M. Pushpa Rani, Director, Centre for AI, Director, Research Centre Madurai, Professor & Head Department of Computer Science, Mother Teresa

Women's University, Tamilnadu, India, Dr. P. B. Beulahbel Bency, Assistant Professor, Department of Education, Mother Teresa Women's University, Kodaikanal -Tamil Nadu, India, Eng. Abdur Rahman, Chairman/CEO-EduGate International, Founder Chairman – BCAS Campus and Prof. MH. Thowfeek, Professor of MIT, Departement of Management and IT Moderator for the expert discussion for their enormous and timely contributions to make this event a great success.

The chairpersons and members of various sub-committees have demonstrated commendable effort in the coordination of this conference. Their significant support, ongoing interest, and valuable suggestions have greatly contributed to the success of this event. Special gratitude is owed to the reviewers who meticulously evaluated the abstracts. Additionally, the exceptional contributions of the track coordinator deserve recognition, and I extend my sincere thanks to them. The diligent efforts of Prof. K.M. Mubarak, the conference secretary, Mrs. A.R.F. Thafani, Assistant Secretary to the 12th IntSym of SEUSL, in managing a substantial workload are truly admirable. Furthermore, I appreciate the administrative staff for their efforts in organizing the necessary logistics for the conference's success.

In conclusion, I extend my best wishes to all presenters and participants for a fruitful conference, hosted by the South Eastern University of Sri Lanka.

Prof. Dr. AMM Mustafa
Coordinator, 12th IntSym 2024
Professor in Business Economics

Message from the Assistant Secretary

As the Assistant Secretary of the 12th International Symposium, it is with great honor that I introduce this Book of Abstracts, a testament to our collaborative efforts in exploring 'Digital Transformation for a Sustainable Future.' This compilation transcends a mere aggregation of abstracts; it captures groundbreaking research and innovative concepts that showcase our unwavering commitment to tackling some of the most critical challenges of our era. The variety of subjects presented herein reflects the comprehensive engagement and dedication of our scholarly community.

Each abstract within these pages offers a distinct viewpoint, contributing to a broader understanding of and solution to global issues, with contributions spanning a multitude of disciplines. Witnessing the convergence of such diverse strands of research, ideas, and discussions within this volume is truly inspiring. This collection stands as a tribute to the diligence and intellectual rigor of all the participants, whose endeavors have positioned this symposium as a milestone in the academic calendar of SEUSL.

I wish to express my profound gratitude to every researcher, academician, and practitioner who has played a part in enriching this symposium. Your insights and breakthroughs extend beyond scholarly success; they are vital steppingstones towards forging a more sustainable future. May this Book of Abstracts not only serve as a symbol of our collective pledge but also as a guiding light in our continued pursuit of knowledge and innovative solutions for a better world.

Ms Thafani Rasheed
Assistant Secretary
12th IntSym 2024

Message from the Editor in Chief

Dear Esteemed Participants,

As the Editor in Chief of the International Symposium 2024 conference proceedings, organized by the South Eastern University of Sri Lanka, it is my pleasure to provide you with an insight on the status of this Book of Abstracts publication.

The Editorial Board of this publication is happy to inform you that the 12th International Symposium 2024 had received an overwhelming response from researchers worldwide, with a total of 203 research papers submitted for consideration. This remarkable turnout underscores the global interest and engagement in the academic discourse surrounding our symposium's theme.

The review process was rigorous, aiming to uphold the highest academic standards and integrity. After careful evaluation by our esteemed panel of reviewers and track coordinators, only 152 abstracts of exceptional quality have been selected for inclusion in the proceedings. This stringent selection process ensures that the content of the book of abstracts maintains the credibility and scholarly excellence expected from the symposium.

While the symposium was delighted to receive numerous submissions, it also recognizes the importance of maintaining the integrity and relevance of our proceedings. Regrettably, a number of submissions did not meet the criteria and were consequently rejected. However, the editorial board extends gratitude to all authors for their contributions and encourages them to continue their valuable research endeavors.

The success of our proceedings would not have been possible without the dedicated efforts of the esteemed panel of reviewers, the track coordinators and conference teams. Their tireless commitment and assistance in various capacities have been instrumental in bringing this publication to fruition. The editorial board extends its heartfelt appreciation to each member of our organizing committee for their invaluable contributions and the board is confident that the selected

papers will enrich scholarly discourse and contribute significantly to the advancement of knowledge in their respective fields.

Thank you once again for your participation and support in making the International Symposium 2024 a resounding success.

Warm regards,

M. B. M. Irshad, PhD (ICT)
Editor in Chief
International Symposium 2024 Proceedings
South Eastern University of Sri Lanka

Keynote Address

Professor Kamal Bechkoum

PhD, BSc (Hons), FBCS, CITP
Professor of Computer Science,Founder &
CEO of Hi-Ed International
HE Leadership | AI | CyberTech,
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The Grand Challenge:

Super Connectivity, the Data Tsunami, and Artificial Intelligence

Introduction

In the age of digital transformation, the massive growth in the number of interconnected devices has ushered in an era of unprecedented connectivity, caused by the Internet of Things (IoT) phenomenon. From smartphones to smart appliances, from industrial machinery to wearable gadgets, IoT has revolutionised how we interact with technology in all aspects of our daily lives. It is not just IoT devices that are interconnected. The fusion of IoT and non-IoT devices has created an ever-growing web of interconnectedness, leading to what can be termed as "super connectivity."

This super connectivity led to a continuous increase in the generation of massive amounts of data, often referred to as Big Data. So much so, that in the last four to five years we generated more data than humanity has generated ever since humans started to live on this planet!

Indeed, there are opportunities created, and challenges posed, by the super connectivity and the ensuing "data tsunami". When these two are combined with the growing powers of Artificial Intelligence, they become a trio to be reckoned with and one which is referred to in this talk as the *Grand Challenge*, as depicted in the figure below.

Figure 1. The Grand Challenge

This keynote emphasises the need to navigate the challenges while seizing the opportunities to unlock the full potential of this highly interconnected future. Special attention is given to the risks associated with cyber security and the role that both humans and AI must play.

The Explosion in the Growth of Connected Devices and the Ensuing Data Tsunami

The growth in the number of connected devices, both IoT and non-IoT, has been nothing short of exponential. Although forecasts vary from one analyst to another, there is a clear consensus that the numbers will at least exceed 30 billion by 2025. According to Statista[1], the number of connected devices worldwide is projected to reach 41.6 billion by 2025, a staggering increase from just 8.4 billion in 2017. This includes not only traditional IoT devices like smart thermostats and fitness trackers but also non-IoT devices such as laptops, desktops, and even vehicles, all of

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[1] https://zerynth.com/blog/iot-technologies-what-are-the-main-trends-of-2023/

which are becoming increasingly connected to the internet. Moreover, this connectivity is not going to be restricted to devices. The likelihood of humans becoming "nodes" in a network is quite real. Recently, Elon Musk's Neural ink has successfully completed the implant of its first brain chip in human [2], whereby the human can interact with a device "through their thoughts"! If anything, the super connectivity is only going to become much larger and with wider ranging impacts.

This super connectivity is leading to a scary explosion in global data creation. While the exact figure may vary depending on the source and methodology used for measurement, it is estimated that as of 2022, humans generate approximately 2.5 quintillion bytes of data each day. This includes data generated from various sources such as social media interactions, online transactions, sensor readings from IoT devices, digital communications, and more. As a result, organisations are challenged to effectively manage, analyse, and derive insights from this vast amount of data to drive innovation, make informed decisions, and gain competitive advantages in the digital age.

Undoubtedly, there are clear potential benefits of super connectivity, which are linked to almost every aspect of our daily lives. From improved healthcare outcomes and smarter cities to more efficient supply chains and personalised experiences, the possibilities are endless. If used properly, super connectivity offers us the opportunity to create a more intelligent, efficacious, and sustainable world.

However, while the rise of super connectivity presents immense opportunities for innovation and convenience, it also poses significant challenges. The sheer complexity of managing and securing large interconnected ecosystems requires robust infrastructure and governance frameworks. Perhaps more importantly, security and privacy concerns loom large with so many connected devices exchanging data, raising serious questions about data protection and vulnerability to cyber-attacks.

The role of Artificial Intelligence

The combined power of Artificial Intelligence (AI) and Big Data is a magnificent tool supporting transformative capabilities across

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[2] https://www.theguardian.com/technology/2024/jan/29/elon-musk-neuralink-first-human-brain-chip-implant

industries. Big Data provides the vast amounts of raw material necessary to train and fuel AI algorithms, enabling machines to learn, reason, and make predictions with unprecedented accuracy and efficiency. By harnessing the immense volume, velocity, and variety of data, AI systems can uncover hidden patterns, extract valuable insights, and automate complex tasks at scale. This synergy has revolutionised sectors such as healthcare, finance, transportation, and manufacturing, empowering organisations to optimise processes, enhance decision-making, and deliver personalised experiences to customers. However, alongside these opportunities come inherent risks and challenges. Chief among these concerns are the issues related to data privacy, security breaches, algorithmic bias, and ethical implications.

Having access to large amounts of data makes AI-powered cyber attacks more sophisticated, much more likely to succeed and more difficult to detect. A recent report[3], by the UK's National Cyber Security Centre (NCSC) explains how AI will increasingly enable the shift towards the "ransomware-as-a-service" model. This will lower barriers to entry, increasing the number of cyber criminals and heightening the global ransomware attacks.

The rise of Large Language Models (LLMs), such as ChatGPT and Gemini (ex Bard), heighten the cyber threat and the risks to privacy. For example, the five principles of privacy that clash with LLMs:
- Lawfulness: Can we even use the data we are analysing?
- The right to be forgotten.
- Accuracy: Beware of fake news!
- Transparency: How, and why, we use the data we have.
- Bias: Machines can be biased when trained on a biased data set.

The Role of Humans

Security, privacy, and ethical behaviour are the responsibility of everyone. This responsibility cannot be delegated to a department (e.g. IT Department) or an individual (e.g. CISO/CEO). Everyone is responsible, and accountable, with the citizen being the first line of defense.

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[3] https://www.ncsc.gov.uk/news/global-ransomware-threat-expected-to-rise-with-ai

Government agencies, companies from the public and private sector, and educational establishments must work together to unleash, and benefit from, the great potential offered by the trio (super connectivity, big data, AI) and guard against the risks and challenges associated with cyber security and data privacy. No party can do this by themselves (see figure below). A collaborative approach is necessary for the betterment of society.

Figure 2. The Hell and Heaven Scenarios

Concluding Remarks

The challenges posed, and the opportunities created, by the skyrocketing connectivity, the data explosion and the anticipated increased influence and growth of AI, are real and palpable. We can ignore them at our risk and peril. Many organisations, and individuals, fall into the trap of being too busy to make the necessary changes, to take the right steps in a timely manner, or to invest in people and the right systems. For such organisations, the following quote is apt and pertinent.

Figure 3. The Detrimental Effect of Lack of Innovation.

Preparedness is the responsibility of everyone, requiring investment in people, technology, systems and procedures. This preparedness is not a "status", it is a continuous process. We will never be prepared enough, for while we might be sharpening our saw, threat actors are not standing still either. There is, I am afraid, no graduation ceremony!

Excerpt from Industry Dialog

Moderator: Prof. Dr. M. H. Thowfeek

Revolutionizing Education: The Role of Artificial Intelligence

Artificial Intelligence (AI) has become a transformative force across various sectors, and its impact on education is profound. In today's rapidly evolving technological landscape, integrating AI into educational practices holds immense potential to enhance learning outcomes, personalize education, and streamline administrative tasks.

AI is revolutionizing education through personalized learning experiences. Traditional one-size-fits-all approaches are being replaced by adaptive platforms powered by AI algorithms. These platforms analyze students' learning patterns and deliver customized pathways, adapting content, pacing, and assessment methods to suit individual needs. This ensures that each student can reach their full potential without being left behind.

Furthermore, AI-enabled educational tools offer real-time feedback and assessment, enabling teachers to identify areas where students may be struggling and intervene promptly. This not only helps in addressing learning gaps but also enables educators to adjust their teaching strategies in alignment with students' needs.

Moreover, AI is revolutionizing administrative tasks within educational institutions, streamlining processes such as admissions, enrollment, scheduling, and grading. Chatbots powered by AI assist students and faculty in navigating administrative procedures efficiently, reducing administrative burdens and freeing up time for more meaningful interactions.

Another area where AI is making significant progress in education is in content creation and delivery. AI algorithms can analyze vast amounts of educational data to identify trends, preferences, and gaps in learning materials. This data-driven approach facilitates the creation of high-quality, engaging content tailored to meet the diverse needs of learners.

However, while the potential benefits of AI in education are vast, it is essential to address concerns regarding data privacy, algorithmic bias, and digital equity. Safeguarding students' privacy and ensuring the ethical use of AI in educational settings should be paramount. Additionally, efforts must be made to bridge the digital divide and ensure equitable access to AI-powered educational tools and resources for all learners.

In conclusion, the integration of AI into education has the potential to revolutionize teaching and learning, making education more personalized, adaptive, and effective. By harnessing the power of AI, we can create an educational ecosystem that empowers learners, supports educators, and prepares students for success in the digital age.

Prof.Dr. M.H.Thowfeek
Professor of MIT
Department of Management and IT
Faculty of Management and Commerce
South Eastern University of Sri Lanka Oluvil.

Resource Person: Eng. Abdur Rahman

Digital Transformation for a Sustainable Future!

In the context of Sri Lanka's current economic situation, characterized by significant challenges including foreign debt crises, inflation, and energy shortages, the potential for digital transformation to foster a sustainable future becomes even more critical. Sri Lanka, with its strategic location in the Indian Ocean and a burgeoning tech-savvy population, stands at a crossroads where embracing digital innovation can be a game-changer for its economy and environmental sustainability.

Digital technologies offer pathways to revitalize the Sri Lankan economy through enhanced efficiency, productivity, and innovation across various sectors. For instance, in agriculture, which is a cornerstone of the Sri Lankan economy, employing precision agriculture technologies can lead to more sustainable farming practices, reducing water use and optimizing yields, thus ensuring food security and reducing dependency on imports.

The energy sector, another critical area for Sri Lanka, can benefit from digitalization to improve the distribution and efficient use of renewable energy sources. With the country facing power shortages and a heavy reliance on imported fossil fuels, investing in digital technologies like smart grids and AI for energy management can pave the way for a more sustainable energy future.

Furthermore, the concept of smart cities can be particularly transformative for urban centers like Colombo, integrating digital solutions for traffic management, waste reduction, and energy efficiency. These initiatives not only contribute to sustainability but also improve the quality of life for its residents.

Digital education and awareness programs tailored to the Sri Lankan context can empower citizens with knowledge on sustainable practices and the importance of digital literacy in driving economic and environmental progress.

Moreover, leveraging digital platforms for tourism, one of Sri Lanka's key economic sectors, can promote sustainable tourism practices, enhancing the visitor experience while preserving the country's natural and cultural heritage.

For Sri Lanka, navigating its economic challenges through digital transformation involves strategic investments in technology infrastructure, policy reforms to support innovation and entrepreneurship, and partnerships between the government, private sector, and international community. By focusing on digital solutions that align with the principles of sustainability, Sri Lanka can not only address its immediate economic concerns but also lay the groundwork for long-term prosperity and resilience.

Eng. Abdur Rahman
Chairman/CEO-EduGate International
Founder Chairman – BCAS Campus

Resource Person: Dr.M. Pushpa Rani

Hearty Greetings to all!

In this era of unprecedented technological advancements, the symbiotic relationship between digital transformation and sustainability stands as a cornerstone for progress. Our collective efforts to leverage digital technologies pave the way for a future where environmental stewardship, economic viability, and social responsibility converge harmoniously.

As we navigate the complexities of our rapidly evolving world, this symposium serves as a beacon, guiding us toward a future where technological advancements not only drive progress but also contribute to the well-being of our Universe. The papers and presentations in these proceedings reflect the dedication and expertise of individuals committed to unraveling the potential of digital transformation in fostering sustainability across diverse industries.

Beyond the technicalities, let us also reflect on the human aspect of this transformation that digital advancements not only optimize efficiency but also contribute to social well-being and ethical responsibility. That way, this Symposium is an essential, timely, and insightful endeavour not only for the Academic community but also for all the blooming researchers too.

I appreciate the Organizing team, particularly the Conference Chair, Conference coordinator, and Organising Secretary for curating this platform of intellectual exchange and their commitment in bringing up this Compendium of Wisdom on digital transformation and sustainability. May this compilation serve as a lasting resource, inspiring continued exploration, collaboration, and action in the realms of digital transformation and sustainability.

As we delve into this symposium, I wish this every success, and I hope that the discussions and collaborations that take place here will lead to fruitful outcomes that benefit society as a whole.

I am glad to be a part of this. Congratulations!

Dr.M. Pushpa Rani
Director, Centre for AI
Director, Research Centre Madurai
Professor & Head
Department of Computer Science
Mother Teresa Women's University
Tamilnadu, India

Resource Person DR. P. B. Beulahbel Bency

Greetings!

Digital technologies are now a part of our daily lives, and the speed of their implementation and use has been accelerated because of the COVID-19 pandemic. Digital transformation, seen in the past as a problem, is now perceived as an important component in the future of sustainable development. The EdTech education plays a crucial role in fostering sustainable development, moving society toward a more environmentally and socially conscious future, and influencing the attitudes and behaviours of both the present and the future generations. Digital innovation has demonstrated powers to complement, enrich and transform education, and has the potential to speed up progress towards Sustainable Development for education and transform modes of provision of universal access to learning. It can enhance the quality and relevance of learning, strengthen inclusion, and improve education administration and governance. Digitalization of information makes it easier for students to make decisions based on accurate information and act responsibly to preserve the health of the economy and the natural world.

Despite being that important and timely, there is a dearth of scholarly research on the digitalization and digital transformation for a sustainable future; this symposium paves a way for the academicians and budding researchers towards digitalized education in all fields for a sustainable future.

My wishes and congratulations to the Conference Chair, Conference Co-ordinator and Conference Secretary of the 12th International Symposium and Industry Dialogue of SEUSL, Sri Lanka. I am very glad to be a part of this venture with full continued support to reach more laurels.

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DR. P. B. Beulahbel Bency
Assistant Professor
Department of Education
Mother Teresa Women's University
Kodaikanal, Tamil Nadu, India

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Resource Person DR. WGCW Kumara

Embracing AI for a Sustainable Future in Higher Education and Local Problem Solving

Dear esteemed colleagues, organizers, and participants,

I am honored to be a panelist at the 12th IntSym organized by the South Eastern University of Sri Lanka on the theme "Digital Transformation for a Sustainable Future." This theme aligns with the evolving academic landscape, emphasizing the need to integrate cutting-edge technologies.

In higher education, AI presents transformative opportunities and challenges. Ensuring ethical AI adoption in educational institutions, addressing inclusivity, and navigating issues like data privacy and algorithmic bias are pressing concerns.

The role of AI in addressing local challenges is crucial for regions like Sri Lanka, grappling with unique socio-economic and environmental issues. AI can analyze complex data sets, identify patterns, and formulate data-driven strategies to tackle problems, from optimizing resource utilization to enhancing disaster management systems.

In higher education, AI can contribute to personalized learning experiences and intelligent tutoring systems. However, maintaining a balance between technological advancements and the human touch in education is crucial. Integrating AI should enhance the learning environment, fostering critical thinking, creativity, and problem-solving skills.

During the panel discussion at IntSym, let's explore responsible AI integration and strategies to make AI a positive force for sustainable development in local communities and the global landscape.

I eagerly anticipate insightful discussions and collaborative efforts emerging from this symposium, shaping a more sustainable and technologically enriched future.

Best regards,

DR. W.G.C.W. Kumara
Senior Lecturer in Computer Engineering
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Table of Contents

Social Sciences and Humanities for Sustainable and Versatile Future

Social Capital on Performance of Informal Sector Firms: An Empirical Study Based on Indian Firm Level Data

Kumarasinghe, K.W.T.K.[1] and Pallegedara, A.[2]

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ABSTRACT

Purpose: Informal sector firms play a significant role in contributing to the global economy, especially in developing countries. This study investigates the impact of social capital on performance of informal sector firms and the mediating effects of Covid 19 pandemic and female ownership on the relationship between social capital and the performance of the informal sector firms.

Methodology: The study used secondary data obtained from the World Bank Enterprise Survey. The dataset was selected from the Indian context where informal sector firms have contributed significantly to national economy. The performance of the firms was measured in terms of profit and total sales, whereas the social capital was measured using a self-developed scale by the author. A self-developed scale had been occupied owing to the unavailability of a scientifically tested scale to measure social capital as per the existing literature. Multiple regression was used to estimate the impact of social capital on the performance of the firms.

Findings: The regression results showed a robust strong positive relationship between the social capital and performance of informal sector firms, while the mediating effects of the global Covid 19 pandemic and female ownership on performance of informal sector firms were not significant.

Implications: The findings suggested that policies to create more social capital will contribute to higher level of economic performance in India.
Originality: This is the first study that investigated the impact of social capital on performance of informal sector firms and the mediating effects of Covid 19 pandemic and female ownership on the Indian context.
Keywords: informal sector, social capital, multiple regression, business performance

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Factors Influencing the Incidence of Heart Attacks: A Study in Jaffna, Sri Lanka

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ABSTRACT

Purpose: Cardiovascular disease (CVD) is a leading cause of morbidity and mortality globally, accounting for 17.9 million deaths annually or 32% of all fatalities. In 85% of these cases, the cause was heart attacks. The latest statistics from the World Health Organization indicate that cardiovascular diseases (CVDs) accounted for 22.66% of all deaths in Sri Lanka in 2020. This study focuses on the Jaffna district in Sri Lanka's Northern Province, which has recently witnessed an increase in the number of daily heart attack deaths. The primary goal of this study was to identify the factors affecting heart attacks.

Methodology: The information was gathered from the cardiology unit of Jaffna Teaching Hospital between January and December 2022, resulting in a dataset of 512. The variable "Heart attack status" (Yes/No) is considered as a dichotomous response variable, and the explanatory variables considered in this study were Age, Gender, Civil status, Employment status, Smoking, Chest pain, Heart rate, Blood pressure, SpO2, Smoking, Alcoholic, Allergies, Family history of heart disease, Diabetes, and Hypertension. The logistic regression model was used for this analysis.

Findings: Results reveal that the main factors impacting heart attacks were Age, Gender, Chest pain, Pulse rate, Systolic, Diastolic, and Diabetes. Moreover, we calculated the accuracy of the logistic regression model, and this accuracy validates the model's suitability for prediction.

Implications: Additionally, the model's evaluated sensitivity and specificity suggest that it is more effective in predicting the risk of a heart attack.

Keywords: logistic regression, Chi-square test, accuracy, heart attacks

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Collaborative Learning Approach and English as a Second Language Speaking Skill: A Study of Accuracy and Fluency

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ABSTRACT

Purpose: The study aims to examine the transformative influence of Collaborative Learning Approach (CLA) in the twenty-first- century approach- a panoramic view of accuracy and fluency in English as a Second Language (ESL) speaking skill among tertiary education learners. Design: Adopting a mixed research methodology, respondents from Sri Lanka Advanced Technological Institute were meticulously assigned to investigate in this study.

Findings: The results of the study highlight substantial improvements in affective factors such as reducing hesitation, stress, inferiority complex, lack of motivation, anxiety, and bolstering self-esteem and confidence CLA practices. However, the impact on cognitive and linguistic factors appears moderately significant.

Practical implications: The study involves advocating for pedagogical and curriculum adaptations, suggesting the incorporation of indoor and outdoor CLA activities to foster an interactive ESL learning environment. Furthermore, the study urges workshops and training sessions for educators to familiarize them with collaborative learning techniques, technological resources, and enhancing student support mechanisms.

Research Limitation: The study suggested a limited timeframe of the intervention program, socio-cultural variations, dialectal variations, sample size and other unaccounted variables might influence the outcome.

Originality: The research emphasized practical implementation guidance to inform policy-makers and curriculum developers to consider integrating CLA techniques, potentially improving teaching standards and student outcomes in Sri Lanka.

Keywords: Accuracy, Collaborative Learning Approach, English as a Second Language, Fluency, Speaking Skill

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Boost of English Learning Motivation in Sri Lanka with the Economic Crisis? A Study of Vocational Education Students in Sri Lanka

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ABSTRACT

Purpose: This study delves into the motivation of vocational training students to examine the nature of English learning motivation.

Methodology: A motivational questionnaire survey was administered to 130 vocational students who are following different courses in Sri Lanka, and the collected data underwent analysis through SPSS correlation analysis.

Findings: The findings reveal that students ideal L2 self, and attitudes towards English speaking community have the highest correlation to the motivated learning. These results indicate vocational students strong desire to learn English and be with the English-speaking community in the future.

Implications: This research offers a comprehensive analysis of the motivational factors influencing English learning among vocational training students. The findings of this study will offer valuable insights for the development of English course modules tailored to vocational training institutes.

Theoretical Contribution: The study's insights are poised to make significant contributions to the theoretical understanding of how motivation influences language acquisition, particularly within vocational training settings.
Originality: This research breaks new ground by conducting a comprehensive analysis of the motivational factors affecting English learning among vocational training students. By focusing on this specific demographic within the context of language acquisition, the study offers fresh insights that enrich the theoretical understanding of motivation's role in language learning.

Keywords: English learning motivation, economic crisis, vocational education

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Role of Traditional Crafts in Sustainable Development: An Investigative Study to Find Unique Features of The Contemporary Beeralu Lace of Sri Lanka to Raise the Value and Price of Goods.

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ABSTRACT

Purpose: The objective of this research is to investigate unique features of the contemporary beeralu lace that affect the value and price of goods.

Design/Methodology/Approach: The selected study setting is Magalle, Galle District. This research uses a qualitative data analysis approach. Craftsmen, foreign customers, sellers, instructors, and designers of NCC 14 semi-structured interviews were conducted. The data was then analyzed to identify the factors that affect pricing.

Findings: The research found several factors that affect to maintenance high price of the beeralu craft. The first is the inherited traditional knowledge of art and craft, which generates the unique identity of the craft. Moreover, it was found that Beeralu lace has been utilized as fashion value additions, which affects the price of the product. Also, collaboration between craftsmen, designers, retailers, and the National Craft Council, along with government involvement in the craft has been systematically evaluated and then modified to a wide variety of customer needs.

Practical Implications: Develop training programs for traditional beeralu craftsmen, fashion designers, suppliers, and manufacturers, and encourage market-driven production strategies to optimize product portfolios and boost competitiveness.

Research Limitations: Craftsmen have identified the value of their traditional knowledge. They hardly expose the knowledge to outside people, providing little information.

Originality/Value: This research aligns with SDG 01, which focuses on enhancing people's skills for improved livelihoods. The research shows the potential of collaboration between traditional artists and professional designers to address the needs of the customers in a wider context.

Keywords: Beeralu lace, Culture, Design application, Local and international customers, Value addition, SGD 01.

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Challenges in Translating Compositional Phrases from Tamil to Sinhala and vice versa

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ABSTRACT

Purpose: The present study investigates the challenges encountered by the students while translating compositional phrases from Tamil to Sinhala and Sinhala to Tamil vice versa. Further, the study provides relevant techniques and strategies to overcome such challenges.

Methodology: A quantitative methodology has been applied to collect the primary data by conducting a test among twenty level III second semester undergraduates of Department of Translation Studies, Faculty of Arts, University of Jaffna. A qualitative methodology has been applied in order to identify the challenges. A collective method has been applied in order to analyse the challenges.

Findings: The students were unable to translate compositional phrases because of knowledge inability in applying relevant translation techniques and strategies. Due to the unfamiliarity with the associated culture and the lack of knowledge in applying equivalence, they mostly provided incorrect equivalent.

Implications: The findings revealed appropriate techniques and strategies in order to overcome the challenges of translating compositional phrases.

Theoretical contribution: translating compositional phrases requires a linguistic knowledge and cultural knowledge with the knowledge of applying equivalence theory. Apart from theoretical knowledge, they should have prior knowledge regarding compositional phrase of both source language and target language.

Originality: This is the initiate study investigating challenges in translating compositional phrases from Tamil to Sinhala and vice versa.

Keywords: translation, compositional phrases, techniques, strategies, equivalence

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Exploring Disparities in School Library Development and Administrative Support Received from Authorities

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ABSTRACT

Purpose: The main objective of this study is to investigate disparities in collection development activities and administrative support received by school libraries across urban, suburban, and rural school libraries in the Kandy district.

Methodology: This study used a survey method to collect data and the questionnaire was used as the main data collection tool. The research was conducted in the Kandy district, focusing on schools that have dedicated school libraries. The questionnaire was administered to all 267 schools in the Kandy district. The survey was conducted in January 2023, and 267 questionnaires were distributed, and 186 completed responses were received from the participating schools by a 64.8% response rate.

Findings: Analysis using SPSS (17.0) revealed varied perceptions among librarians regarding resource allocation, with 48% (urban), 50% (suburban), and 28% (rural) deeming the allocation sufficient. Administrative support was widespread across settings. Acquisition policies were more prevalent in urban (74%) and suburban (79%) schools than rural (38%) schools, with 62% lacking such policies. User suggestions for acquisitions were actively sought by 85% (suburban), 75% (urban), and 67% (rural) schools.

Conclusion: In conclusion, disparities in perceptions and practices related to library development and administrative support were evident among schools in different settings, emphasizing the need for tailored approaches.

Recommendations: The study recommends allocating resources equitably based on regular assessments, fostering transparent communication between administrators and librarians. It is recommended to promote standardized cataloging practices, advocate for acquisition policies in schools lacking them, and encourage user involvement, recognizing the unique challenges in urban, suburban, and rural settings to ensure a more equitable educational environment.

Keywords: Administrative support, disparities, library development, school library

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Financial Challenges of Undergraduate Students- A Study Focused on the Faculty of Islamic Studies and Arabic Language, South Eastern University of Sri Lanka.

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ABSTRACT

Purpose: This present study aims to find out the financial challenges faced by undergraduate students in the context of the economic crisis.

Methodology: The study incorporates both quantitative surveys and qualitative interviews to gather comprehensive data. The quantitative phase involves administering structured questionnaires sample of 150 undergraduate students based on a random sampling method. Secondary data were collected from books, articles, and online resources. The data were descriptively presented using MS Excel software and the results were discussed by illustrating in charts.

Findings: Results indicate that 86% of undergraduate students face academic difficulties due to the economic crisis. This situation has created obstacles in students' basic needs such as printing course materials, other course fees, purchasing textbooks, living expenses, and travel expenses. These challenges have also affected their ability to focus on their studies. Additionally, 13% of male students are involved in part-time employment.

Practical implications: Establishing financial aid programs specifically tailored to support undergraduate students affected by the economic crisis can alleviate their financial burdens.

Originality: The research findings shed light on the significant impact of economic crises on undergraduate students' lives, by focusing on this specific demographic within a localized setting, the study contributes original insights into the unique challenges faced by undergraduate students.

Keywords: University Students, Higher Education, Financial Challenges, Financial Support

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Positive Classroom Management and Academic Achievement Among Mannar District – A Psychological Research

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ABSTRACT

Propose: This research explores the psychological underpinnings of positive classroom management and its impact on academic achievements.

Methodology: Surveys, interviews, questionnaires (self-assessment classroom management tool (sacm), -e.n.m. Sogoni's corporal punishment questioner - (1997) in the department of educational psychology university of natal) and observations were used across diverse students (150) and teachers (180) samples. The analysis was associative and described methods and spss was used for the analysis.

Findings: findings indicate that corporal punishment negatively impacts psychosocial aspects, contributing to diminished well-being among students. Conversely, positive classroom management techniques, such as behavior reinforcement and clear expectations, are associated with higher levels of academic achievements.

Implication: this psychological research underscores the interconnectedness between positive classroom management and academic achievements, shedding light on the cognitive and motivational mechanisms that underlie this relationship. The findings provide valuable insights for educators, psychologists, and policymakers seeking to enhance educational practices through a deeper understanding of the psychological dynamics at play in the classroom.

Limitations: sample selection was only 10% of total population (used sample size calculator for social science) and gender variants are not included.

Originality: this is the first study in Mannar district on the heading. According to the literature review, one study was made in Vavuniya district. Open access questioners are used those from western countries and carefully modified for the Sri Lankan cultural background under the supervision.

Keywords: Corporal Punishment, Psychosocial Impact, Positive Classroom Management, Academic Achievements

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Object-oriented Machine Learning Algorithm for Feature Detection in UAV Visible Light Images

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ABSTRACT

Purpose: The research is to explore the effectiveness of Object-Oriented Machine Learning (OO-ML) algorithms in detecting features in images recorded by Unmanned Aerial Vehicles (UAVs) using Red-Green-Blue (RGB) technology over Chenkalady Divisional Secretariat, Sri Lanka.

Methodology: The OO-ML algorithms are optimized for UAV feature recognition, object-based segmentation, feature extraction, and classification with the integration of random forest classifiers High spatial resolution RGB imagery from OpenAerialMap (OAM) platform is used, which Empirical Line Method Measurements are thereby (ELM) available. Vegetation indices such as Normalized Green-Red Difference Index (NGRDI) and RGB Vegetation Index (RGBVI) provide better identification of tree species and building types.

Findings: The evaluation demonstrates the efficiency of the algorithm in accurately identifying available objects and reducing spatial heterogeneity in time distribution (average change value of 5). Vegetation characters play an important role in highlighting vegetated areas and distinguishing between species. Accuracy analysis using 100 randomly distributed points shows an overall accuracy of 96% and a kappa coefficient of 0.97 for both NGRDI and RGBVI vegetation indices.

Implications: This study improves feature recognition methods in UAV images, emphasizing the synergies between OO and ML methods. The proposed algorithm shows promise in accurately identifying various geographic features that can be used in environmental management, disaster management, and urban planning.

Theoretical Contribution: This study highlights the importance of combining OO-ML algorithms with UAV image analysis to provide insights into effective feature detection techniques.

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Originality: This study presents new applications of the OO-ML algorithm for object detection in UAV-visible light images, especially in environmental monitoring and disaster management applications.

Keywords: UAV, feature detection, machine learning, vegetation indices, remote sensing.

Mother Tongue Influence in Translation: A Study Based on English to Tamil

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Purpose: This research aims to investigate the impact of mother tongue influence on the translation process from English to Tamil, focusing on the linguistic and cultural aspects that contribute to this influence.

Methodology: The study incorporates qualitative research methods. Firstly, a literature review is conducted to explore existing theories and studies on translation, mother tongue influence, and the specific challenges encountered when translating between English and Tamil especially in terms of Document translation. This serves as the foundation for the subsequent empirical research. A comparative analysis is performed to identify instances where mother tongue influence affects the translation choices made by the participants. The analysis includes linguistic features such as grammar, vocabulary, syntax, idiomatic expressions, and cultural references. This qualitative data provides a deeper understanding of the translators' experiences and perspectives.

Findings: The findings of this research contribute to the field of translation studies by shedding light on the role of mother tongue influence in the translation process from English to Tamil.

Implication: It identifies specific linguistic and cultural challenges that translators encounter and offers recommendations for addressing these challenges effectively.

Theoretical Contribution: Furthermore, the study highlights the importance of translator training programs that focus on minimizing the negative impact of mother tongue influence on translations.

Originality: This research is new to the field of Translation and the findings are its original contribution.

Keywords: Translation Studies, Mother Tongue Influence, English to Tamil Translation, Linguistic Challenges, Bilingual Translators.

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Quantifying Forest Cover Change in Sri Lanka (1900-2019): A Geospatial Analysis for Sustainable Conservation

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ABSTRACT

Purpose: Forest ecosystems play a vital role in sustaining life on Earth, serving as biodiversity reservoirs, carbon sinks mitigating climate change, and providing habitat for countless species. Analysing long-term forest cover change is crucial for global sustainability. This study employs geospatial techniques to examine forest cover dynamics in Sri Lanka from 1900 to 2019

Methodology: Utilizing the Global Historic Land Dynamics Assessment Data (HILDA+), encompassing land cover changes over 120 yearswe adopted a multifaceted methodology using various software tools. ArcGIS and QGIS facilitated spatial visualization, mapping, and analysis, while Excel aided in data organization and basic insights. RStudio enhanced our analytical capabilities for advanced statistical modeling and data manipulation. The initial phase involved acquiring and spatially refining the HILDA+ Geotiff dataset, focusing on the Sri Lankan region. District-wise cropping resulted in 3000 Geotiff files, categorized into forest and non-forest land uses. Data extraction and organization in Excel sheets enabled a district-wise analysis of forest cover changes. Zonal statistics provided nuanced insights into spatial patterns across 25 districts.

Findings: The historical analysis of Sri Lanka's Forest cover from 1900 to 2020 reveals a declining trend, with notable reductions in certain decades. Anuradhapura stands out with a positive change rate, while most districts show negative change rates, with Jaffna having the highest at -0.83%. Factors such as urbanization, cropland expansion, and development projects contribute to these trends. Gampaha, in particular, experiences a substantial decrease in forest cover due to deforestation.

Implications: the study emphasizes the importance of comprehensive conservation strategies to mitigate further degradation.
Theoretical Contribution: The theoretical contribution of this study lies in its detailed examination of Sri Lanka's historical forest cover dynamics from 1900 to 2020, revealing distinct patterns of change. The analysis provides valuable insights into the factors influencing forest cover variations across different

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decades and districts. Additionally, the identification of positive and negative change rates, such as the expansion in Anuradhapura and declines in districts like Jaffna and Gampaha, contributes to the broader understanding of the complex interplay between urbanization, land use practices, and development projects in shaping forest landscapes.

Originality: This research brings originality to the study of Sri Lanka's Forest cover changes from 1900 to 2020. Integrating cell counts and percentages, it identifies unique patterns, showcasing districts with positive and negative change rates. urbanization, land use, and development, enriching ecological research and emphasizing the need for tailored conservation strategies.

Keywords: Deforestation, HILDA+, Zonal analysis, Sustainable Forest management

Error Analysis of Past Simple Tense in Narrative Writing: A Study of ESL Students in HNDE at ATI Sammanthurai"

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ABSTRACT

Purpose: This study aims to investigate errors in past simple tense usage among HNDE students, focusing on narrative composition. The primary objectives include identifying error types, understanding causes, and proposing effective solutions.

Methodology: A mixed-methods approach was employed to collect comprehensive data. This involved a written test, 10 interviews, 02 focus group discussions, and observation sessions. The research utilized surface strategy taxonomy to classify and analyze errors, providing a holistic view of the challenges faced by HNDE students.

Findings: Errors were categorized into omission, addition, mis-formation, and mis-ordering. Out of them all, mis-formation errors were most prevalent, constituting 41.26% of total errors. Addition errors followed at 28.57%, omission errors at 19.04%, and mis-ordering errors at 11.11%. These findings highlight specific areas where students struggle in past simple tense usage.

Implications: The study stresses the need for addressing mis-formation errors, emphasizing their impact on language proficiency. The identified errors indicate a need for targeted interventions in teaching past simple tense, with a focus on awareness and guidance for students.

Theoretical Contribution: This research contributes to understanding language acquisition challenges, specifically in past simple tense usage, providing insights for educators and curriculum developers.

Originality: This study adds valuable insights by exploring an area not studied before in a specific place and group. It brings a new viewpoint, enhancing what we know and highlighting unique aspects in this particular context.

Keywords: Past simple, error, analysis, narrative, composition, taxonomy

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Economic Development Challenges: A Sociological Study in Sammanthurai Sennel Gramam – 02 Division

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ABSTRACT

Purpose: The main objective of this research is to find out the economic development challenges facing the Sennel Gramam – 02 division of Sammanthurai as well as to propose the solution for the challenges.

Methodology: This is a mixed study of quantitative and qualitative methods employed for data collection purposes. The data for this research was basically gathered by using both primary and secondary data collection techniques. 50 questionnaires, 14 interviews, and 01 focus group discussion and observation were used as primary data. DS office data, books, website data were used as secondary data. Descriptive method was used to analyze the qualitative data and MS – Excel, charts and graphs were used to analyze the quantitative data.

Findings: According to the analysis of the data, the study found poverty, loan, lack of marketing opportunity, inadequate income, lack of job opportunity, no saving habit and lack of resource. Poverty is still a major challenge. 18% of the people are living under the poverty line.

Implication: Poverty cannot be eliminated. But with the support of local organizations in the region, poverty can be reduced by providing them self-employment opportunities.

Originality: This study fulfills the research gap adding valuable insights by exploring an area not studied before in specific area. It also enhances what we know and highlights unique aspects in this particular context.

Keywords: Economic development, poverty, loan, income, resource

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The Effectiveness of Bottom-up and Top-down Approaches in Reading Comprehension of ESL Learners

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ABSTRACT

Purpose: This study attempts to investigate the effectiveness of bottom-up and top-down approaches in the context of tertiary level ESL classes. Among numerous approaches to teaching reading, the two approaches that stand out are the bottom-up and the top-down reading approaches. Though the top-down approach is preferable for teaching reading, the extent to which they are practiced seems to be lower in Asian countries.

Methodology: For this study, eight instructors and fifty students were selected based on purposive sampling technique. A mixed methods research design incorporating classroom observations, online focus group discussions, and survey questionnaires was used to collect data.

Findings: The findings revealed that the top-down approach proves to be more efficacious than the bottom-up approach in facilitating the reading comprehension of ESL undergraduates. Further, the findings also inform that ESL learners perceive the top-down approach as more interesting than the bottom-up approach.

Practical Implications: The findings of this study, which recommend the use of the top-down reading approach in ESL classes to foster the comprehension ability of ESL learners, could contribute to knowledge in reading comprehension for ESL practitioners.

Limitations: As the present study is confined to a particular faculty of a university, future research studies may be needed in a broader context.

Originality: At the backdrop of the fact that the studies that investigated the effectiveness of these approaches are limited in South East Asian countries, this study could be considered an innovative one.

Keywords: Reading comprehension, English as a Second Language, Top-down reading approach, bottom-up reading approach

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Introduction of Medical Science in Tamil: Special Reference to Dr. Samuel Fisk Green's Translation Works

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ABSTRACT

Purpose: The dissemination of medical knowledge among diverse communities is facilitated by translating medical texts into regional languages. This research aims to explore the introduction of medical science into the Tamil language, with a special emphasis on the techniques and strategies used in the translation works of Dr. Samuel Fisk Green, a missionary and translator who contributed to the Tamil literary and medical field in the 19th century.

Methodology: The study employs a qualitative approach, with a focus on secondary data sources about the medical contributions made by Dr. Samuel Fisk Green to the Tamil community. These sources include; கெமிஸ்தம் (1875)> *Vocabularies of Materia Medica and Pharmacy of Midwifery and the Disease of Women and Children; and of Medical Jurisprudence (1875), and Life and Letters of Samuel Fisk Green, M.D., of Green Hill (1891).*

Findings: The findings of the study are as follows: (1) Dr. Green adapted footnotes, transliteration, Tamilization, loan blends, and translation using Tamil words to produce appropriate technical terms. (2) He combined any good Tamil word that is a component of the English compound with Sanskrit. (3) He used each term brief, euphonious and apposite in derivation.

Implication: This research will benefit to the researchers and undergraduates of translation studies in understanding the introduction of Medical Translation in Tamil regions. This implies the cooperation of translation procedures that can advance the compilation of medical glossaries within the context of Sri Lanka.

Originality: The outcomes of the research stand for a distinctive contribution to the field.

Keywords: Dr. Samuel Fisk Green, Historical significance, Medical Science, Tamil Language, Translation Works

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Reading Habit among the Students of G.C.E. A/L: An Analytical Study based on Oddamavadi Educational Division.

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ABSTRACT

Purpose: This study examines the important role of reading as a basic human habit, especially in developing language skills and personality traits of school students. Despite its importance, students face various challenges in maintaining consistent reading habits. To understand these practices and challenges, this research specifically targeted students studying in secondary schools within Koralapputh West Ottamavadi Education Division.

Methodology: Employing a quantitative and qualitative methodology, primary data were gathered via a questionnaire fulfilled by 208 out of 235 students, utilizing Google Forms. Subsequently, responses were analyzed using MS Excel. Additionally, secondary data from pertinent literature and scholarly works were utilized for both the literature review and data analysis.

Findings: The findings reveal that the students' reading habits are generally in a healthy state, albeit varying in the time dedicated to daily reading. Notably, interventions aimed at enhancing reading quality have contributed to an increase in these habits. Moreover, there is a higher inclination towards soft copy reading materials.

Implications: challenges such as cramming, a lack of interest in reading, forgetfulness, and the need for additional time were identified.

Theoretical Contribution: This study underscores the importance of interventions and targeted support to bolster reading habits among school students, ensuring their sustained development in this critical domain.

Originality: This study represents a preliminary investigation into the reading habits of school students in Koralapattu area.

Keywords: Reading Habit, G.C.E A/L Students, Ottamavedi, School Book.

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Virginity, Virginity Loss and Born-Again Virgins: A Critical Analysis

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ABSTRACT

Purpose: Though patriarchy plays a crucial role in issues faced by women, the contemporary world does not blame it. Of all the kinds of violence against women virginity testing is the most critical. There is a strong fear of retaliation and reluctance to speak out on these disputes. Knowing the importance of the subject, this paper aims to discuss the most important concepts such as virginity, technical virginity, hymen, defloration, and born-again virgins.

Methodology: The paper adopts qualitative data and is library research. The most relevant and appropriate secondary sources are used to develop the discussion.

Findings: Though there are no concrete definitions, a plethora of explanations are behind the virginity myth. Virginity was a valuable commodity in the Middle Ages, and a young lady's virginity may represent family or even collective honor on a social level. Furthermore, female virginity raises financial and practical concerns. Those who choose not to engage in penetrative intercourse have been dubbed technical virgins. Blood from the ruptured hymen is considered proof of a woman's purity. The exercise has created underground businesses that promise hymen restoration and virginity by using modern medical technology and gives birth to born-again virgins.

Theoretical Contribution and Implications: The study contributes a wide range of coverage to academic discourse, where there is very little understanding and discussion in this particular area.

Originality: By a thorough and systematic literature review gaps, controversies, and limitations in the current knowledge is presented in the paper.

Keywords: Virginity, Virgins, Born-Again Virgins, Hymenoplasty, re-virginization.

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Comparison of Levels of Speaking Anxiety between Physical and Online Classes: A Study among English as a Second Language Undergraduates of the South Eastern University of Sri Lanka

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ABSTRACT

Purpose: The purpose of this study is to identify the factors that contribute to speaking anxiety in both physical and online classes and to devise some effective techniques for dealing with it. Many researchers have revealed that anxiety could hinder success in second or foreign language learning and may prevent learners from performing to their capacities in learning English.

Methodology: Purposive sampling was used to choose 93 second-year students from the Faculty of Arts and Culture and 10 university ESL instructors/lecturers from the South Eastern University of Sri Lanka.

Findings: This study discovered numerous factors that contribute to ESL speaking anxiety in both physical and online classes. Fear of being evaluated, language competency, lack of confidence, cultural influences, and personality traits were found to be the reasons which cause speaking anxiety in physical classes. This study also suggested some effective strategies to alleviate speaking anxiety among ESL learners.

Practical Implications: Since online language learning is a new concept, investigating the causes and effects of anxiety in online classes will also help ESL instructors conduct effective lessons.

Research Limitations: This study is confined to selected second year students from the Faculty of Arts and Culture only. This would make a wider generalisation impossible.

Originality: Even though several studies on anxiety have been conducted in physical classes, anxiety in online ESL classes has not been investigated much in Asian countries. Hence, this study could be a pioneer study to compare anxiety in Sri Lankan tertiary level ESL classes, both physical and online.

Keywords: Speaking anxiety, English as a Second Language (ESL), Physical ESL classes, Online ESL classes, Undergraduates

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The Commercialization of Religion: How Digital Transformation Shapes Tourism Revenues and equality of human beings.

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ABSTRACT

Purpose: This study aims to investigate the commercialization of religious practices in the digital realm as a means to boost tourism revenue and promote global equality.

Methodology: The research employs a mixed-methods approach, utilizing both quantitative data derived from tourism statistics and qualitative data obtained through content analysis of written, electronic, and digital sources

Findings: Several countries currently engage in the commodification of religious practices, such as India, Thailand, Bhutan, and the United States. For instance, India has introduced a new Buddhist circuit tourist train at railway stations and actively promotes this tourism endeavor through its website. Additionally, certain countries have integrated religious tourism into their academic curriculum. Furthermore, online mindfulness programs and apps have gained significant prominence as contemporary religious practices. These practices contribute to the economic growth of nations and facilitate the dissemination of diverse religious experiences to a global audience, ultimately fostering a more peaceful society.

Implications: In the current era, the prevailing trend is digitalization, emphasizing the significance of digitizing both revenue and human equity to foster growth in the 21st century.

Research Limitations: Critics, including religious leaders and scholars, voice concerns about the commercialization of religion, contending that it does not align with the ethical principles of various spiritual teachings.

Originality: This is a new original valuable solution in the contemporary era, to boost tourism revenue and enhance human equity by incorporating commercialized religious practices within the realm of digitalization.

Keywords: Commodification Religion, Digital transformation, Equality, Tourism revenue

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Spiritual and Ritual Healing System Vs Modern Healing System: A Sociological Study

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ABSTRACT

Purpose: The medical industry is expanding quickly in the modern world. The goal of medicine worldwide is to maintain and advance health and wellbeing. At the same time, Western medical advancements have peaked in Sri Lanka. Amidst, it has also been noted that individuals in rural regions continue to use spiritual, ritual healings and traditional medicine. The objectives of this study were to determine why people choose ritual remedies over free Western treatment provided by government hospitals.

Methodology: In accordance with this, Badulla district serves as the basis for four areas chosen for this study. A mixed-methods strategy was used in the research. Data was gathered using both primary and secondary data collection instruments. Primary data was gathered by means of observations and interviews.

Findings: The data analysis indicates that people have a preference for ritual medicine over Western treatment. Age, occupation, geography, and inheritance are the primary elements that have influenced this predilection. Comparably, the people are turning to ritual medicine for reasons, including delayed illness recovery, low incomes, and a lack of Western medical facilities nearby. The primary causes of this have been determined to be the dearth of hospitals, inadequate transportation, the state of the economy, etc. Ritualistic healing methods have given rise to several societal ramifications.

Implications: This research has unequivocally shown that there have been significant fatalities and requires policy implications.

Theoretical contribution and Originality: A new comprehensive theories on preference for ritual medicine over Western treatment pays the path for new knowledge. This study becomes a pioneer study to investigate in Badulla District, particularly with plantation communities.

Keywords: Western medicine, Western treatment, ritual healing, ritual medicine, spiritual healing.

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Influence of School Factors on Learning Achievement of Grade 5 Scholarship Students

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ABSTRACT

Purpose: The achievement of the students in the scholarship examination in Porativupattu Education Division is very low. This study was carried out with the objective of enhancing the achievement.

Methodology: 10 schools have been selected on the basis convenient sampling. The principals, 64 teachers teaching elementary education, 55 students and their parents were selected on the basis of objective sampling. Questionnaires, interviews, direct observations and documents were used as data collection tools for the study. The quantitative and qualitative data obtained from these have been analysed through Microsoft Excel and shown in the form of tables, bar charts and pie charts.

Findings: School factors make severe impacts in the enhancement of achievements. That is, if the educational development of the schools of this region is affected, the level of achievement in the examinations will decrease, the achievement levels of the co-curricular activities will be affected in various ways, such as students discontinuance, achievement levels of co-curricular activities will decrease, students daily attendance will decrease, lack of interest in learning, not engaging in co-curricular activities, people will not be able to choose and learn their favourite subjects, and they will not be able to achieve the goals of the schools.

Implication: A number of issues have been identified and recommendations have been made to address these issues.

Keywords: Grade 5 Scholarship Examination, Learning, Achievement

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The Talibans and Human Rights Violations – Historical View

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ABSTRACT

Purpose: The purpose of this study is to identify the human rights violations that are taking place under the religious principles of Islamic countries and the human rights violations that are taking place under the rule of the Taliban in Afghanistan.

Methodology: This study is a descriptive study based on historical approach.

Findings: Human rights abuses are on the rise under the Taliban regime and (the future of women there is in question.). The US supports the Taliban regime and the United Nations has not condemned their human rights violations.

Implications: Islam has stricter restrictions as when comparing than to other religions. Compared to other countries, a present human rights violations are increasing in Afghanistan under the rule of the Talibans. The United Nations has not taken appropriate action against their human rights violations. America is also providing support.

Theoretical construction: Bringing out the hidden human rights violations in Islamic countries. The importance of this research is to bring out the hidden human rights violations and oppressive methods against women in Afghanistan, one of those countries.

Originality: It uses primary and secondary data. Primary data mostly reports of Taliban's and various other documents. As secondary data are used, subsequent books, articles, website data.

Keywords: Taliban, Human rights violations, Laws, Punishments

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The Property Rights and Their Practices of Women as The Desavazhamai Law Reveals - An Analysis

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ABSTRACT

Purpose: The purpose of this study is to present the property rights and practices of women as mentioned in the Desawazhamai law.

Methodology: This study is carried out as a descriptive study based on historical approach.

Findings: Desawazhamai law gives importance to women's property. Although this law has been criticized by many as degrading to women, it can be known that it has been in force till date by protecting the property in order to ensure the safety of women.

Implications: Although the National Desawazhamai law applies to the Northern Province, it is additionally in force in Jaffna. The property rights for women enshrined in this Act seem to have a long historical background. In today's era, customary law is being used more and more in matters related to women's property. According to this law, women's property is protected till today.

Theoretical construction: Although there are many laws in Sri Lanka, the Nationality Act is one of the laws that Tamils in the Northern Province should be aware of. In the Civil Code, the Tamil people living in the Northern Province are mentioned in matters related to mathusam, property rights, childbearing, adoption laws, slavery laws, divorce etc. It mainly defines women's property and rights in detail.

Originality: For this study primary data are used to get the original copy of National Desawazhamai law Coimbatore, reports of court cases related to National Desawazhamai Law, interview and discussion and secondary data are books, research articles, government publications, website articles and articles published in magazines

Keywords: Desawazhamai Law, Women's Rights, Social Justice, Property Rights

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Challenges Faced on in the Preservation of an Archaeological Site, Kantarodai in the Jaffna Peninsula

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ABSTRACT

Purpose: This research investigates on the pressing challenges in regards of preservation which confronting with Kantarōṭai, an archaeological site of immense of historical and cultural significance, dating back from 2800 B.C. Kantarōṭai was one of the important archaeological site in Sri Lanka. Despite it's rich heritage, the site faces challenges in its preservation. Thus, the primary objective of this research investigation is to assess the extent of these challenges and to propose sustainable preservation strategies for the future.

Methodology: the data for the analysis have been obtained through the comprehensive survey which has been conducted by utilizing field visits for the document of the current state of the site. In addition to that, interviews with local stakeholders, including local communities, authorities, have been undertaken to understand the community's perspectives and address collaborative efforts for preservation.

Findings: The site faces immense threats such as Socio cultural barriers, Socio political barriers, lack of public participation on preserving the site, the lack of stakeholder's coordination, lack of awareness of its heritage, neglect and abandon of heritage findings, majority of the land at the site are under the private individual ownership, identification of heritages based on the race and religion, conflict of information, uncontrolled and haphazard growth of shop, residences, construction and inapplicability or nonexistence of heritage management plan etc.. The results reveal a critical stage of deterioration which is marked as loss of important archaeological site of core area, and artefacts and also our flourished rich ancient civilization.

Implications: The findings serve as a new foundation for developing sustainable preservation strategies that will balance the site's historical and archaeological importance with the demands of the present.

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Theoretical Contribution: This research is based on field visits and interviews to identify the challenges faced by the archaeological site of Kantarōṭai in its preservation. However, to understand the historical and archaeological significance of this archaeological site, the books and research articles published so far have been used in this research.

Keywords: Kantarōṭai, Preservation, Challenges, Heritage Management

Psychic Stimulation and Spiritual in Gutambai Siddhar Songs

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ABSTRACT

Background: Siddhar literature aims to build the social structure based on human characteristics. These can be better understood on the basis of siddhar literary concepts. such thinking forms the background for this study.

Purpose: This research aims to look at how concepts such as psychic stimulations and spiritual guidance are prominent features of the spoken material of siddhar literature and how they are manifested in gutambai siddhar songs.

Methodology: Descriptive methodology and Analysis method are used in this research. Appropriate circumstances the data is subject to content analysis.

Hypothesis: psychic stimulations and spiritual guidance are revealed in the songs of gutambai siddhar is the proposed hypothesis of this study.

Findings: The siddha tradition has expressed its idea towards a unique social structure. Their teachings are seen as bringing about a change in human behavior or a revolution in the underlying thoughts of behavior. The basic ideology of the siddhars is that individual change can help social development.

Implications: These studies contribute to the discovery of social science concepts reflected in the literature.

Originality: This is the first Study of psychic stimulation and spiritual guidance in gutambai siddhar song in this context. methodology and research design are original contributions.

Keywords: Gutambai Siddhar, Psychic Stimulation, Spiritual Guidance, Human Behavior, Siddha Literature.

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The Funerary Practices and Beliefs of Jaffna in Past and Present. (Based on Vadamarachchi Region)

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ABSTRACT

Purpose: In Jaffna, the Northern Part of Sri Lanka, death rituals and beliefs are deeply rooted in Tamil Culture. There are different optimisms on the death rituals among the regions of Valikamam, Thenmarachchi and Vadamarachchi. However, the purpose of this study is to explore and uncover the many changes in death rituals and beliefs in Vadamarachchi region today.

Methodology: Interviews used as primary data for this research literature, research articles and magazines related to this research topic have been used as secondary data. This study has been carried out based on a historical descriptive and analytical research approach.

Findings: Among the people of Vadamaratsi region, there have been changes in the death rituals that were deeply rooted in the past, except for some basic rituals. Most of the beliefs are subject to flexibility. However, even today, the fear of death is ingrained among them, so they follow these practices in a way that cannot be ignored.

Implications: Identified that contemporary factors such as educational growth, employment, modern ideas, and the penetration of Westernization have caused a change in death rituals and beliefs. The study recommends that death rituals and beliefs have been practiced among the Sri Lankan Tamils since the Megalithic period.

Theoretical Contribution: Some faiths flourish in areas with older generations who strongly adhere to traditional religious beliefs and rituals surrounding death. The younger generation, on the other hand, is more diverse in their beliefs and has a more secular or individualistic approach to death.

Originality: This is the first and new study on which highlights the current situation of the traditional death rituals and beliefs of Vadamarachchi region.

Keywords: Optimism, burial, Vadamarachchi, rituals

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Occupational Status and Problems of Wage Labourers Research Based on J/280 G.N Division

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ABSTRACT

Purpose: This research investigates the occupational status of wage labourers in J/280 G.N division in the Jaffna district and the problems faced by them and proposes solutions for them.

Methodology: A survey of fifty wage labourers was conducted through a personally administrative Questionnaire to investigate the occupational status and problems of wage labourers. Collected data were analyzed descriptive statistical analysis.

Findings: The economic status of the wage labourers in research area is remains backward is found. Basic facilities such as housing, drinking water facilities, and toilet facilities are in backward condition. Despite eating three meals a day, the labourers are not in an economic position to eat nutritious food. Educational status also in backward condition. Labourers faced various problems at work. Such as few days of job availability, less income, hard work, irregular wages, inadequate transport facilities to go to work and having to travel to far places to work have been identified.

Implication: Based on the findings of this study, it is necessary to improve the economic status of the wage labourers and to propose solutions to the problems faced by them. It recommended providing basic facilities to the wage labourers by Government and non- government organizations, and also, financial institutions provide credit facilities to encourage self-employment initiatives in order to increase family income, home gardening can also generate income. The problems of wage labourers can be solved by simplifying the jobs, regulating the wages and providing transport facilities etc.

Theoretical contribution: The literature review has incorporated theories related to labour market. These theories have contributed to doing this study efficiently.

Originality: The study solves the problems related to the wage labourers, and also contributes to the improvement of their economic status by increasing their income and savings.

Keywords: wage laborers, occupational status, economic status

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Enhancing Social Skills for Special Needs Students within Inclusive Education Systems

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ABSTRACT

Purpose: This research aimed to assess the global perception of the student population with special educational needs through evaluate the effectiveness of addressing the needs of students with special requirements within the inclusive education system, analyzing the inclusivity of educational programs. And it Identifies challenges faced in fostering community enrichment through the inclusive education of students with special needs. It Propose effective mechanisms for cultivating social skills among students with special needs within society.

Methodology: This study adopts a social descriptive research method, utilizing secondary data sources. The researcher has drawn upon a variety of secondary data, including books, research journals, and internet-based resources. This approach allows for a comprehensive exploration and analysis of existing knowledge and insights relevant to the research objectives.

Findings: Effective methods in inclusive education are crucial for the socialization of individuals with special needs. It can be understood that an educational system centered on content and socialization is more beneficial in bringing about positive change and direct impact among people with special needs.

Implication: Considering the evolving global landscape, it has become imperative to adapt the inclusive education, particularly in addressing the socialization needs of special education students. This study emphasizes the necessity for modifications in their educational approach, focusing on the importance of socialization and proposing effective methods for its integration.

Theoretical contributions: While the socialization of individuals with special needs in inclusive education has been subject to various theoretical interpretations, its practical implementation holds significant potential benefits for society. This study explores the practical aspects of socialization to shed light on its effective application in real-world scenarios.

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Originality: A wealth of books, studies, and magazines exist on the topic of socialization for individuals with special needs. These resources provide valuable data, offering possibilities for practical implementation in the field.

Keywords: Social skills - Inclusive education - Exceptional students

The Socio-Economic Effects of Economic Crisis of Sri Lanka on Households: Special Reference to Mahathenna GN Division

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ABSTRACT

Purpose: This study aims to find out the socio-economic effects of the economic crisis in Sri Lanka on the household sector under the Mahathenna GN Division.

Methodology: For this study, 223 families were selected as a sample, and data were collected through the questionnaire. A multiple regression model was used to analyze determinants of income during the crisis. Social effects on households are analyzed through descriptive analysis. SPSS software was used for data analysis.

Findings: According to the result of this study, monthly expenditure, monthly savings, occupation stability, and the number of foreign employees determined the income during the crisis. In the economic effect, expenditure has increased in the post-crisis period compared to the pre-crisis period, while income was found to be fluctuating. Further households have poor access to health services, and school dropouts. Food insecurity and poverty have increased. Households faced more challenges like domestic violence, theft, and unemployment.

Practical Implication: This study concludes that the crisis has caused economic and social damage. Hence, this study recommends creating job opportunities by government and non-government organizations, ensuring food security, increasing productivity, and developing infrastructural facilities to reduce negative impacts.

Research Limitation: This study faces some challenges in data collection due to time and resource limitations. Further, some of the respondents did not fill out the questionnaire adequately.

Originality/Value: This study contributes to improving the understanding of decision-making and management skills in households during times of economic crisis.

Keywords: Economic Crisis, Effects, Household, Income

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Teaching Perspectives of Washback Effects of G.C.E. Ordinary Level Test of the English Language

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ABSTRACT

Purpose: The study aims to investigate the washback effects of the G.C.E. Ordinary Level English language test on teaching in Ampara, the eastern region of Sri Lanka. The impact of tests on teaching and learning is a concept known as "washback," and it is primarily being investigated in the realm of testing.

Methodology: A mixed-methods approach in which important tools including teacher interviews, survey questions for instructors, classroom observations, and transcribed data were utilized to look into how the G.C.E. Ordinary Level of the English Language has an impact on teaching.

Findings: The findings revealed the negative impacts of the G.C.E. O/L English language test on the teaching process. Moreover, the findings signposted that the test had a significant impact on the following areas of teaching: teaching methodology, the content covered, materials employed in the classroom, way of approaching the classroom, guidance and coaching given to students before the test, and teachers' attitudes regarding the test.

Implication: This research extends to educational policy, equity and access, teachers' professional development, students' learning outcomes, and research and assessment practices in Sri Lanka to promote English language education.

Theoretical Contribution: Empirical study collects more shreds of evidence for the theory of washback.

Originality: This is the first study which investigated the washback effect of the test among eastern region teachers in Sri Lanka under a careful schedule of observation.

Limitations: More research is required to figure out the causes of these negative washback effects of the G.C.E. Ordinary Level English language proficiency.

Keywords: Washback, G.C.E. Ordinary Level test of the English Language, Washback on teaching, Teaching methodology

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Integrating Academic Writing Among the EMI Undergraduates: An Analysis from Students' Perspectives

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ABSTRACT

Purpose: The study strives to analyze the students' perceptions regarding the impacts of integrating academic writing among the undergraduates who follow English medium instruction (EMI) and measures their writing performance in writing academic paragraphs.

Methodology: The study adopted a mixed-method approach to discover the impact and perceptions of the EMI Undergraduates through research tools like semi-structured interviews, questionnaires, and a focus-group interview, and an intervention of writing practices was given to the target students plus a writing test was employed to measure their writing performance.

Findings: The findings of the study revealed positive perceptions about the impacts of integrating academic writing into their curriculum, and the participants encountered significant improvements in language, content, and unity of writing.

Implication: Integrating academic writing has practical implications for EMI undergraduates' writing. It allowed them to develop their language proficiency and they were trained to write academically.

Theoretical Contribution: Need analysis of a course provides insight for educational practices and curriculum development as well as the effectiveness of integrating language skills within content-based instruction.

Originality: This study is the first one investigating the demand for academic writing among Sri Lankan EMI undergraduates.

Limitations: The present study has employed a few samples from the South Eastern University of Sri Lanka. Therefore, this study requires further research on a large scale.

Keywords: Academic writing, EMI Undergraduates, writing skills, English language

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A Study on the Dimensions of Vulnerability Among the Coastal People in Cuddalore, District

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ABSTRACT

Purpose: This study attempts to identify the dimensions of vulnerability in the coastal area of Cuddalore, District, and identify the various causes for the coastal vulnerability; and to understand the measures taken to adapt to the vulnerability.

Methodology: This study is descriptive in nature. The data was collected from primary and secondary sources. Secondary Data was collected from 152 coastal area people and secondary data was collected from researcher's observation, government and non-government's previous research statistics and official publications.

Findings: Climate change and human activities wield an extensive range of stress on coastal areas. Coastal zones are extensively dynamic and are prone to natural and anthropogenic threats. Climatic uncertainties like droughts, sea erosion, cyclone, tidal waves, and resource depletion affect the coastal people directly and quickly. Human activities like mining and other developmental activities affect the coast badly and slowly. An integrated assessment of coastal vulnerability is essential for effective interventions and long-term planning. The population increase and rapid economic development activities intensify the vulnerability in the coastal area. In coastal regions, vulnerability is shaped by climatic and human activities.

Implication: The findings provide the awareness among the Coastal people in Cuddalore, District about their vulnerability dimensions, also social activists and respective officials could make an appropriate decision to protect the people of coastal area Cuddalore district from the invasive nature, climatic uncertainties, and negative human practices.

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Theoretical Contribution: This study aims to enrich the understanding of vulnerability among coastal communities in Cuddalore district by examing the intersectionality of socio- economic factors, environmental hazards, and resilience mechanisms. By integrating theories of vulnerability, disaster risk reduction and community resilience.

Originality: The research investigating the specific area's real situation at present with sufficient survey data and information. Direct observations and interactions made the study more reliable.

Keywords: Socio-Economic Changes, Coastal Process, Climate Change

The Economic Implication of Inorganic Fertilizer use in Black Market System

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ABSTRACT

Purpose: The aim of this study is to examine the impact and economic benefit of inorganic fertilizer use after the inorganic fertilizer import ban in Sri Lanka.

Methodology: this study employed seventy-nine (79) randomly selected farmers (41 used organic fertilizer and 38 inorganic fertilizers used) in Paddy Farmers Association Sittandy, Batticaloa district were examined using productivity and socioeconomic variables.

Findings: in this study area, Primary data analysis suggests that on average organic fertilizer used farmers had a yield of 47 bags (per bag = 66Kg) while the inorganic fertilizer farmers had a yield of 71 bags. A regression analysis was performed per acre production as the dependent variable and land ownership, household income, education, age, and inorganic fertilizer used (dummy variable) as the independent variables. The regression result shows that the age of the farmer and inorganic fertilizer use have a significant impact on the per acre production, where one year old farmer was able to increase the production by 0.12 bags and led to increase their production by 3.8 bags, respectively. The economic conversion of 3.8 bags is about 39,000 Sri Lankan Rupees (LKR) while the farmers have to incur and additional rupees 40,000 to purchase inorganic fertilizer in the black market.

Practical Implication: used the organic fertilizer of the cost benefit analysis result indicates that there is no significant difference between marginal cost and marginal economic benefit for suddenly switched from inorganic into organic fertilizer.

Originality: this study contributes to the import ban of inorganic fertilizer has led to not only the creation of black market but also no significant economic gain for the farmers.

Keywords: Inorganic fertilizer, Import ban, Black market and Marginal analysis

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The Effect of Premenstrual Syndrome on Quality of Life Among the Jaffna University Students

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ABSTRACT

Purpose: Premenstrual syndrome refers to changes in mood, emotion, physical health, and behavior that occur between ovulation and the start of the menstruation period.

Methodology: This study adopted both qualitative and quantitative methods. To achieve the objective of the study, primary and secondary data were collected. Questionnaires, surveys, and interviews have been used for primary data, whereas statistical reports from various websites and government departments have been used as secondary sources in the data collection process. Further, the data were subjected to content analysis and other statistical analyses.

Findings: The result shows that there is a significant influence of pre-menstruation syndrome on the quality of life among university students. Further, this study highlights that 34% of the sample experienced higher levels of psychological symptoms. 36% of the sample experienced more physical symptoms. Also, it is seen that the standard of living of students is moderately affected by 38%.

Implications: This study emphasizes that if the menstruating woman and her family get clarity about this menstrual cycle, the effects of such menstrual cycles would be reduced. Psychoeducation, awareness about premenstrual syndrome, and holistic support should be needed for the student's group.

Theoretical contributions: This paper integrates the biopsychosocial model, stress and coping theory, as well as intersectionality theory, and provides a comprehensive framework to understand premenstrual syndrome and its related issues.

Originality: The sample of the study, a comprehensive intersectional approach and assessment pattern, and the primary data of the study are unique.
Keywords: Premenstrual Syndrome, and Quality of life

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An efficacy study on Behavioral Problems of Children and Counselling Intervention Techniques

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ABSTRACT

Purpose: The present study focuses on the behavioral problems of children ranging in age from 6 to 13 years and also explores possible counseling intervention techniques to cope with them.

Methodology: In this study, 40 samples were selected from the children coming for treatment at the Child Psychiatry Unit in Jaffna Hospital. Both primary and secondary data were collected from the sample and their parents, and it was analyzed through appropriate analysis, such as qualitative and quantitative analysis.

Findings: 55% of the children coming to the child mental health unit were subject to behavioral problems. Especially those with angry and violent attitudes were seen more. Based on the data obtained through the interview, it is highlighted that the children's behavioral problems are associated with their parenting style. To reduce the behavioral problems, the researchers used guidance in soothing techniques, empathy, and listening techniques and also provided psychological support, group activity techniques, and play techniques to improve their mental health.

Implications: The findings of the study provide new insight for parents to apply the strategies to their children to reduce their behavioral problems.

Theoretical contribution: This study integrates various developmental theories, attachment theory, social learning theory, and ecological system theory, which provide a comprehensive framework to understand children's behavioral problems.

Originality: The data obtained through the interview and intervention for the coping behavioral problems are original contributions.

Keywords: Children, Behavior Problem, Counselling intervention

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The Role of the Hindu Organ in the Revival of Shaivism (Based on Northern Sri Lanka)

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ABSTRACT

Purpose: The arrival of Europeans to Sri Lanka disrupted the status of indigenous religions. In particular, the indigenous people had faced the challenge of reviving their religious from the colonial religious dominant and the proselytizing activities of the Christian priests. Under these circumstances, the Shaivites also began to feel the need to revive their religion. In this context, Hindu Organ was published from 1899 by the Shaiva Paripalana Sabha to make possible revival of the Shaivism. Therefore, the objectives of this study are to highlight the origin and growth of the Hindu Organ daily and the revival of Shaivism carried out through this daily.

Methodology: This study is a descriptive view point which based on historical approach. Hindu Organ used as Primary data for this research, Literature, research articles and magazines related to this research topic has been used as secondary data.

Findings: After the death of Arumuga Navalar, the Hindu Organ magazine published by Shaiva Paripalana Sabhaiyar with the main intention of the revival of Shaivism which was the crown for the growth of the religious journalism of the Shaivites people living in Northern Sri Lanka and created awareness about the moral values of saivism among the people who were distracted by the influence of the Christianity. Thus, it is appropriate to say that this journal fought for the religious and cultural rights of the Saivites who preserved and upheld the social structure of Shaivism in the revival of Shaivism.
Implication: It identifies the challenges faced by Shaivism and Shaivism culture and make recommendations regarding steps taken by the Hindu Organ to address these challenges.

Theoretical Contribution: Furthermore, the study highlights the importance of protecting Shaivism and Shaivites from European colonial religious persecution and proselytizing practice.
Originality: This research is new to the field of religious studies in colonial era and the findings are its original contribution.

Keywords: Northern Sri Lanka, Hindu Organ, Europeans, Shaivism, Shaiva Paripalana Sabha.

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The Role of Tamil Language in Sinhala Kingdoms During the Early and Medieval Period of Sri Lanka- A Study

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ABSTRACT

Purpose: Pali, Prakrit languages, and the Northern Brahmi script came into use when Buddhism was introduced in the 3rd century BC among the ancestors of Sri Lanka, forming a common culture before the spread of Buddhism. However, Early Iron Age Brahmi Potsherds, Inscribed Coins, and Brahmic inscriptions reveal that Tamil Brahmi and the Tamil language were in use due to South Indian influence. Buddhism, along with the Pali and Prakrit languages introduced with it, led to the emergence of linguistic cultures based on Tamil and Sinhala. Nevertheless, these languages did not hinder the maintenance of good relations between the Tamil and Sinhalese people. However, many contemporary Sri Lankans are currently unaware of these historical facts. This lack of awareness is one of the reasons why the Tamil problem has become a political issue in Sri Lanka. Therefore, the purpose of this study is to highlight the importance and significance that the Tamil language acquired during early and medieval times through the patronage of Sinhalese kings, supported by evidence.

Methodology: This study is a descriptive viewpoint which is based on a historical approach. Pali, Sinhalese literature, inscriptions, and inscribed coins are used as the primary sources of this study. Secondary sources, including books and articles based on primary sources, are utilized to explore the origin and development of Sinhala and Tamil languages in Sri Lanka, the Tamil-Sinhala language relationship, and the cultural activities of Sinhalese rulers.

Findings: This study reveals that Tamils and Sinhalese lived together in many places in Sri Lanka during this period, and there was no language conflict between the two ethnic groups. Furthermore, the recognition given by Sinhalese kings to the Tamil language and the Tamil people, as well as the observation that Tamil grew as a language of use among the Sinhalese population, are noted.
Implication: The antiquity of the Tamil language is a major issue in the history of Sri Lanka today, identifies the challenges faced by Tamil speakers in enjoying language rights and recommends recognizing Tamil as an archaic language. It also highlights that Tamil was favored by Sinhalese kings and both languages were used for commercial and political activities during the Sinhalese dynasty.

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Theoretical Contribution: This study reveals that the Sinhalese monarchy supported and contributed to the development of the Tamil language, just as the Tamil language influenced the origin and development of the Sinhala language in early times.

Originality: This study is the first of its kind, providing new insights into the development and influence of the Tamil language during the Sinhala kingdoms of Sri Lanka.

Keywords: Sri Lanka, Tamil language, Sinhala Kingdoms, Sinhalese

The People's Trust on Representative Democracy in Sri Lanka in the Post-People's Struggle (Aragalaya)

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ABSTRACT

Purpose: This study examines the factors that influenced people's struggle in Sri Lanka, the relationship between people's struggle and representative democracy, people's confidence in representative democracy after the people's struggle, and the challenges faced by representative democracy after the people's struggle.

Methodology: A questionnaire method consisting of interviews and structured questions was used to collect primary data. A mixed-analysis method has been used in this study. For this, data has been collected and analysed through 100 questionnaires and 25 interviews. Ten (10) districts were selected through simple random sampling, and the population of that district was selected and studied according to ethnicity.

Findings: According to the analysis carried out, the study found that the people's trust in representative democracy in Sri Lanka has declined after the struggle. This has affected public confidence in representative democracy in Sri Lanka, which is concentrated in selected districts. According to the study, trust in representative democracy is lower in Sri Lanka before and after the struggle, while trust in it is lower for all three main ethnic groups in Sri Lanka.

Implications: This study will help policymakers on government trust in Sri Lanka and public trust in representative democracy in the future. The study highlights the many challenges that representative democracy has faced since the struggle and also the solutions. The study emphasizes that the government should be transparent, establish political trust, hold elections on time, promote direct democratic strategies, establish government accountability, and provide opportunities for people and civil society to participate.

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Theoretical Contribution: For this, the theory of representative democracy and the theory of political trust have been used.

Originality: It is also seen as a major study that helps to understand the people's confidence in representative democracy after the people's struggle in Sri Lanka.

Keywords: People's Struggle, Representative Democracy, Political Trust, Government Transparency, Public Trust.

The Effect of Remittances on Household's Expenditure Patterns A Research Based on J/136 G.N. Division

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ABSTRACT

Purpose: This study is focused to find out the household's expenditure patterns through remittances in J/136 G.N division in Jaffna district. And put forward suggestions on how rural people can use the remittances effectively to improve their economic status.

Methodology: Questionnaire data was collected from 60 households which is 12% of total 504 households. In these 60 households was conducted through a personally administrative Questionnaire to collect data. Out of which 30 households are receiving remittances and 30 households are not receiving remittances. Collected data were analyzed descriptive statistical analysis.

Findings: In the study area, remittances are used for food, transportation, entertainment, housing, savings, investment activities, land purchase, gold purchase, loan repayment etc. Based on this study found that remittance have positive relationship with the economic status of the people. A large portion of remittance is spent on consumption. Remittances have a positive relationship at 1% significance level with food, non-food expenditure and savings. The use of remittances in investment activities is low. There is a gap in economic status between households receiving remittances and households not receiving remittances in the study area. And also, there is a gap between the two households in terms of food expenditure, non-food expenditure and savings. There is a difference in the value of owned assets between the two groups.

Implication: The findings provide this remittance is used for consumption expenditure than for savings and investment activities. When economic shocks and uncertainties occur, people may not be able to overcome this crisis when they do not have sufficient savings. Therefore, government and non-government organizations should conduct consultations, seminars in order to encourage a certain amount of remittances to be involved in investment activities, financial institutions should introduce savings promotion schemes to induce the savings activities, women receiving remittances should be encouraged to engage in entrepreneurial activities like self-employment activities.

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Theoretical contribution: The literature review has incorporated the theories related to remittances. These theories have contributed to doing this study efficiently.

Originality: This study contributes to identifying the expenditure patterns of households using remittances and also contributes to finding ways to improve their economic status through effective utilization of remittances.

Keywords: remittances, households, expenditure pattern, economic status

Livelihood and Economic Status and Problems of Aging Populations – Based on Research Based on Varany Area.

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ABSTRACT

Purpose: This research investigates the Varany area's aging populations lively hood status of 8 GN Divisions of Varany area and the problems faced by them and proposes solutions for them.

Research Methodology: A survey of thirty ageing populations was conducted through a personally structured Questionnaire and interview and focus Group discussion to investigate the lively hood status and problems of varany area's aging populations. Collected data were analyzed descriptive statistical analysis.

Findings: The economic status of the aging populations in research area is remains backward is found. Basic facilities such as housing, drinking water facilities, and toilet facilities are in backward condition. Despite eating three meals a day, the aging people are not in an economic position to eat nutritious food. less income, inadequate transport facilities to go to health and medical services and having to travel to far places to treatment have been identified.

Implication: Based on the findings of this study, it is necessary to improve the economic status of the aging populations and to propose solutions to the problems faced by them. It recommended providing basic facilities to the subsides of aging populations by Government and non- government organizations, and also, financial institutions provide credit facilities to encourage self-sufficient initiatives in order to increase family income, home gardening can also generate Implication: Based on the findings of this study, it is necessary to improve the economic status of the aging populations and to propose solutions to the problems faced by them. It recommended providing basic facilities to the subsides of aging populations by Government and non- government organizations, and also, financial institutions provide credit facilities to encourage self-sufficient initiatives in order to increase family income, home gardening can also generate income.

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Theoretical contribution: The literature review has incorporated the theories related to aging population's problems. These theories have contributed to doing this study efficiently.

Originality: The study solves the problems related to aging populations, and also contributes to the improvement of their economic status by increasing their income, saving and livelyhood.

Keywords: Aging populations, lively hood, economic status

Efficacy of Flipped Classroom Learning in Improving High School Students' Critical Thinking Skills

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ABSTRACT

Purpose: This study aimed at determining the effect of flipped classroom approach to enhance critical thinking skills in high school students.

Methodology: The present study employed a nonrandomized control group in its quasi-experimental investigation. A purposive sample of high school Class IX students was used in the FCL Strategy and Conventional Teaching Method study to investigate the effect of a variable on Critical Thinking Skills. The study included 30 students from the control group and 30 students.

Findings: The study's conclusions showed that the experimental and control groups' critical thinking abilities scores differed significantly ($P = 0.00 < 0.05$). The results showed that the flipped learning paradigm improved students' critical thinking scores more than the traditional approach. Thus, it was advised that school administrators and governments should promote the use of flipped model innovation.

Practical implication: School owners, governments, and non-governmental organizations should provide sufficient and dependable flipped tools, like educational apps, websites, projectors, Wi-Fi, tablets, high-speed internet connections, flipped boards, routers, and other digital facilities, so that teachers can integrate the model into their regular teaching and learning. This is because the flipped learning model plays a role in students' learning.

Originality: The purpose of this study was to investigate the relationship between students' critical thinking skills and the flipped learning paradigm. When comparing the skills attained by students who were taught the concepts of heat, energy, and power using a flipped learning paradigm to those of their peers who were taught the same topic using a traditional manner, the data analysis showed a statistically significant difference.

Key Words: inverted learning, critical thinking skills, secondary education

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Transforming Business for Sustainability in the Digitalized World

The Novel Group Chain Acceptance Sampling Plan Using Minimum Angle Method for Non-Symmetrical Data Using Quartiles

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ABSTRACT

Purpose: This paper introduces the group chain acceptance sampling plan (GChSP) for non-symmetrical data under truncated life testing using the minimum angle method (MAM) to ensure both consumers and producer's risks in acceptance sampling. The 3rd quartile(Q_3) is considered as the quality parameter to address non-symmetrical data, and its performance is compared with the median (2nd quartile or Q_2) using SciLab Software.

Design/Methodology/Approach: The methodology for GChSP involves six steps. Identification of design parameters, Implementing the operating procedure, Deriving the probability of lot acceptance, Deriving the probabilities for zero and one defective, Deriving the fraction defective for Generalized Exponential Distribution, and Measuring the performance.

Findings: The findings ensure that the 3rd quartile produces the minimum number of groups for GChSP rather than the median while satisfying the requirements of MAM.

Practical Implications: The proposed plan offers an alternative for industry inspection procedures, enabling us to choose the best plan that meets the specific requirements.

Research Limitations: The paper has three limitations: it only focuses on the Generalized Exponential Distribution, but the approach can be extended to other distributions, and it uses the Binomial Distribution to derive probabilities of zero and one defectives, which can be replaced with Poisson or weighted Poisson Distributions. Additionally, alternative quality parameters like percentiles or deciles could be considered instead of the current quantile measures.

Originality/Value: The initial GChSP, developed in 2015, focused on the producer's risk. In 2022, MAM was incorporated using the mean as the quality parameter. In 2023, GChSP for non-symmetrical data was developed using the

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median. As an extension this paper suggests GChSP with MAM for non-symmetrical data, using the 3rd quartile.

Keywords: Consumer's Risk, Group Chain Sampling Plan, Minimum Angle Method, Producer's Risk

The Impact of Consumer Buying Motives of Alternative Fuel Vehicles on Purchase Intention in Sri Lanka

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ABSTRACT

Purpose: The primary purpose of this study is to examine the impact of consumer buying motives towards the alternative fuel vehicles (AFV) on purchase intention in Sri Lanka.

Methodology: The three consumer buying motives were employed in the research study to evaluate how these factors impact on purchase intention. The three factors are: hedonic motives, utilitarian values, and environmental motives. An empirical investigation was conducted utilizing convenience sampling and a self-administered questionnaire. Applying structural equation modeling with Smart PLS 4.0 and SPSS 23.0, the data are assessed in order to investigate the model and test the hypothesis.

Findings: The findings show that three consumer buying motives factors—hedonic motives, utilitarian motives, environmental motives—have statistically significant impacts on purchase intention. The utilitarian motive has the strongest impact on purchase intention followed by hedonic motive and environmental motive respectively. The implications of the findings for scholars and marketers are substantial.

Implications: Prioritizing hedonic motive, utilitarian motive, and environmental motive are of the utmost importance for all stakeholders. They need to provide reasonable prices, economical and give pleasure to the customers through alternative fuel vehicles. Considering the effect of consumer buying motives on purchase intention, the study presents valuable data as well.

Theoretical Contribution: As a result, solid theoretical framework incorporating all the dimensions was supplied in addition to solid empirical evidence. A pre-survey was conducted to verify the content validity, and a pilot survey was used to gather 50 responses to confirm the validity and reliability metrics.

Originality: This research contributes to the body of literature on consumer buying motives. Since it examines the influence on consumer purchase intention of consumer alternative fuel vehicles. This analytical viewpoint has not before been extensively utilized in literature.

Keywords: Keywords: Consumer Buying Motives, Hedonic Motives, Utilitarian Motives, Environmental Motives, Purchase Intention

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Undergraduate Entrepreneurs Fulfillment with Blended Learning at the University of Colombo Institute for Agro-Technology and Rural Sciences

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ABSTRACT

Purpose: This study seeks to delve into the fulfillment levels regarding blended learning among undergraduate entrepreneurs enrolled at the University of Colombo Institute for Agro-Technology and Rural Sciences.

Methodology: Survey research method was employed with the pre-tested questionnaire served as a tool to gauge the contentment derived from blended learning among these entrepreneurial undergraduates. Employing a Likert scale that ranged from "strongly agreed" (+2) to "strongly disagreed" (-2), the variables pertaining to fulfillment were carefully measured. This assessment covered the entire population enrolled in the program.

Findings: A powerful and strong encouragement of the degree program's delivery method (83.82%) and the decision to pursue it via blended learning at the institute (85.29%). However, when considering the time investment required for the program, respondents exhibited a level of uncertainty, hovering between agreement and disagreement. Nevertheless, a substantial majority of respondents (81.37%) intensely promoted recommending the blended learning approach for undergraduate entrepreneurs.

Implications: Comprehending the significance of blended learning among undergraduate entrepreneurs holds considerable importance in the landscape of higher education, entrepreneurship development, and policy making in Sri Lanka.

Theoretical Contribution: A new understanding of the role of blended learning in entrepreneurship education by offering insights into the elements that influence satisfaction among undergraduate entrepreneurs.

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Originality: By focusing on the population of undergraduate entrepreneurs while understanding their viewpoints helps modify educational strategies to better meet entrepreneur needs and aspirations.

Keywords: Blended learning, educational strategies, entrepreneurship development, satisfaction assessment, undergraduate education

Factors that Impact to the Annual Transfer of Management Assistants and Retention for Best Performance in University of Jaffna

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ABSTRACT

Purpose The performance of the Management Assistants (MAs) plays an important role in the growth and development of an institution. The Mas annual transfer needs to ensure the effective delivery management service to the customers, and it is significant since it has been reported that MAs performance as well. The annual transfer for management assistants' performance is decided in the university environment and has not been studied in Sri Lanka.

Methodology: This study applies both qualitative methods by conducting interviews and performance evaluation. Quantitative method by conducting a questioner's survey. The sample population of this study consists of 150 staff from different locations or branches. Primary data were collected by self-administrated questionnaires and interviews. The secondary data were collected from the annual report and magazines and the Correlation and Regression analysis were used.

Findings: it is treated as very good reliability as per the result reported in the correlation coefficients point. this research found that there was an optimistic influence and statically proved that the Management Assistants' annual transfer changed their working ability, outcomes, adaptation of acquired knowledge, cooperation, and performances of energetic level.

Implications: Annual transfer is important for an operational strategy and for establishing good governance. It creates appropriate direction and suitable facilities for the staff and the institution.
Theoretical Contribution: Few management theories satisfy people with the right equipment, people with the right knowledge skill, abilities of an institutional framework, and commitment to do the work are the motivating factors.
Originality: This is the first study investigating and scrutinizing the effect of annual transfer on Management Assistants' commitment and performance in the system.

Keywords: Transfer, Governance, Behavior, Performance

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A Comprehensive Approach to Energy Consumption Monitoring in Plastic Manufacturing: Integrating CUSUM and I-MR Control Charts

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ABSTRACT

Purpose: This research endeavors to redefine energy consumption monitoring in plastic manufacturing by scrutinizing the accuracy of Specific Energy Consumption (SEC), proposing an integrated approach employing CUSUM and I-MR control charts. The study aims to foster continuous improvement in energy management practices.

Design/Methodology/Approach: The study employs a combination of literature review and the application of statistical tools. Methodology integrates with CUSUM and I-MR charts, providing a means to detect subtle shifts in process means over time.

Findings: The research uncovers significant inaccuracies in SEC values, highlighting the imperative for a more comprehensive methodology. The application of CUSUM and I-MR charts proves effective in identifying and addressing deviations, offering nuanced insights into the dynamics of energy efficiency.

Practical Implications: This collaborative research has practical implications for the plastic manufacturing industry. The proposed methodology enables proactive identification and rectification of energy consumption deviations, contributing to enhanced cost optimization and sustainability. Manufacturers can utilize the insights gained to improve process efficiency and achieve substantial energy savings.

Research Limitations: Acknowledging context-specificity to plastic manufacturing, the study recommends further research for generalizability. Assumptions of stability and the exclusion of external factors influencing energy consumption are recognized limitations.

Originality/Value: The research contributes to existing knowledge by presenting a comprehensive methodology for energy consumption monitoring,

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addressing the limitations of SEC. The integration of CUSUM and I-MR charts provides a unique approach to detecting and managing subtle shifts in process means, offering a practical tool for optimizing energy efficiency.

Keywords: Energy monitoring, Energy saving, I-MR chart, Plastic manufacturing, Process efficiency, Sustainability

Adoption Model of AI-Based Chatbots in the Telecom Industry: A Hybrid PLS-SEM Modeling Approach

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ABSTRACT

Purpose: The objective of this study is to investigate the efficient use of artificial intelligence (AI) chatbot in the telecom industry at the current period of increased information technology adoption and industrial transformation.

Design/Methodology/Approach: The TOE framework and DOI theory are used to analyse the many aspects that impact the adoption of AI chatbot in the telecom industry. The research encompasses a survey carried out from 519 telecom customers in Sri Lanka, using structural equation modelling to scrutinise quantitative data.

Findings: The report highlights that the decisions made by organizations and the allocation of resources are crucial elements that determine the adoption of AI. Additionally, the study emphasises that the telecom industry has a moderating role in regulating the influence of AI chatbot factors on technological anxiety, irrespective of whether the chatbot displays human-like design cues.

Practical Implications: This study has significant practical consequences for organisations functioning in the telecom industry. Understanding how customers make decisions and allocate time for using AI chatbot may provide valuable information for enterprises aiming to improve customer relationships and go into new sectors.

Research Limitations: The study largely focuses on Sri Lankan telecom customers, which restricts the applicability of the results to a wider global environment. Moreover, the study's dependence on quantitative data obtained from surveys may fail to encompass the whole intricacies of organisational dynamics and the procedures involved in adopting AI chatbot.

Originality Value This study brings a new perspective to our knowledge of how AI affects organizational processes and how employees perceive it.

Keywords: Telecom Industry, Chatbot, Artificial Intelligence, PLS-SEM, TOE-DOI

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Exploring the Determinants of Consumer Behavior: A Study in the Perspective of Consumer Law

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ABSTRACT

Purpose: The aim of the study is to address the lack of understanding into the consumer behavioral determinants in the perspective of consumer protection measures and law, by uncovering the importance of law-related determinants to interested parties, and to shed light into the frequent violations of consumer rights, and the possible challenges that hinder the effective enforcement of consumer law.

Methodology: The study follows a qualitative research approach, where the maximum variety sample technique was used to ensure data richness from a sample of 09 participants using semi-structured interviews. The results were then analyzed using thematic analysis, with the use of interpretivist philosophy.

Findings: Consumers were found to pay attention to law-related determinants of price adherence, product information, merchantable quality, and fit for purpose. Issues of price exploitation, consumer misleading, quality concerns, and sale by sample violations, were also identified. Furthermore, challenges to consumer protection, including consumers' lack of awareness, reluctance to redress, lack of morality, and media malpractices, were found.

Implications: The study's practical implications align with the objective of setting a proper understanding into consumer determinants in the perspective of consumer law, and the legislative deficiencies uncovered through the study are directed to policymakers in revamping country's consumer protection policy.

Originality: Unlike the previous studies that have attempted to explain known behavioral determinants, this study makes a new contribution in the perspective of consumer protection measures, concerning consumer law, by exploring and uncovering new variables, in order for them to be included in policymaking to ensure effective fulfilment of consumer protection in the country.

Keywords: Behavioral Economics, Consumer Behavior, Consumer Law, Consumer Protection, Consumer Rights

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Factors influencing Transforming Business for Sustainability in the Digitalized Word

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ABSTRACT

Purpose: This research identifies the factors influencing Factors influencing Transforming Business for Sustainability in the Digitalized Word. Achieving sustainable development through digital transformation is very important for today's businesses. By promoting sustainability, micro, small and medium enterprises (MSMEs) can gain a competitive advantage and attract customers and investors who share their profits. Additionally, engaging in sustainable practices allows MSMEs or Business to foster innovation, reduce costs, achieve sustainability goals, succeed in digital age, employee involvement, and improve reputation. This study aims to identify how Business owners or consumers can initiate digital transformation projects.

Methodology: Quantitative literature review was conducted based on our questionnaire. Therefore, this study identifies the first steps consumer that can take when initiating change by identifying the key organizational resources needed for successful change, researching to find technologies that can support business or MSMEs in achieving their sustainability goals, as well as understanding the importance of stakeholders in achieving these goals. Sustainable development goals.

Finding: The success of digital transformation. First, the Companies that involves employees in sustainability, Government policies and incentives very essential, business should prioritize responsibility alongside environment, companies invest in renewable energy, maintain better supply chain system ,use AI- Driven automation, maintain data security, follow transparency and trust through blockchain technology, government invest on sustainability, business play an important role in the innovation process, making companies more competitive locally and globally. Finally, big data is the technology that can provide the most significant benefits to Business because it can analyze a lot of information and make effective decisions.

Keywords: Digital transformation, Technology progress, electronic waste, social justice, Micro Small and Medium Enterprises (MSMEs), Big data

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Volatility Transmission Between Sri Lankan and Japanese Equity Markets

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ABSTRACT

Purpose: This study investigates the interrelation between the Japanese and Sri Lankan stock markets and the relationship between their currencies. It scrutinizes volatility transmission to offer insights into investment diversification opportunities.

Methodology: Using EGARCH models on daily data from January 2018 to December 2023, the All-Share Price Index (ASPI) of the Colombo Stock Exchange, the Tokyo Price Index (TOPIX), the Nikkei 400 and JPY/LKR exchange rate were analyzed to assess market relations.

Findings: Complex relationships emerged between indices and currencies. TOPIX positively influences ASPI, while Nikkei 400 demonstrates an insignificant negative impact. The Japanese Yen and Sri Lankan Rupee also show positive but insignificant correlations. Notably, negative news substantially impacts market performance.

Implications: Investors may consider diversifying into the Sri Lankan market, especially those interested in the Nikkei 400. Sri Lankan regulators should implement buffers against Japan while promoting investment prospects. This aids global risk management and policymaking.

Limitations: Findings should be interpreted cautiously, given the insignificance of some observed relationships, indicating data or model limitations.

Originality: This pioneering study offers novel insights into how Japanese shocks transmit to Sri Lanka, highlighting the need to examine asymmetric volatility effects further.

Keywords: ARCH, ASPI, TOPIX, EGARCH, NEKKEI400, volatility

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Impact of Viral Marketing on Brand Equity: With Special Reference to Mobile Tele Communication Industry in Western Province, Sri Lanka

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ABSTRACT

Purpose: The main purpose of this dissertation is to identify the impact of viral marketing and to investigate mobile phone brand equity through viral media.

Methodology: Questionnaire data was collected from 384 consumers who were selected using the convenient sampling method, as per the guidelines specified in the Morgan table. The data were collected by administration of a structured questionnaire. The internal consistency of each construct of the questionnaire was measured by administering Cronbach's Alpha test and its results revealed that all the constructs are reliable for the present study. Descriptive statistics, correlation analysis, and regression analysis were used in the data analysis and to test the hypotheses of the study.

Findings: The reliability analysis of the study ensures the used dimensions and indicators of the Independent and Dependent variables are reliable. The correlation results reveal that EWOM and Online Trust are significant in mobile phone brand equity through viral media in Western province. The regression result also supports the correlation result confirming the positive effect of all those factors in mobile phone brand equity through viral media in Western province.

Implications: The findings reveal EWOM is the most influential dimension for the dependent variable. The researcher suggests that EWOM is a more targeted form of media as it allows consumers to express their opinions within their social circles, where their influence holds greater significance.

Theoretical Contribution: Viral loop marketing theory is a marketing strategy that focuses on leveraging the power of social networks and word-of-mouth to spread a message, product, or service quickly and efficiently.

Originality: This is the first study investigating the impact of viral marketing on brand equity in mobile telecommunication industry using mobile phone brand operators.

Keywords – Viral Marketing, Electronic Word of Mouth, Online Trust, Brand Equity

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Case-Based Ecommerce System for Trading During Pandemic

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ABSTRACT

Purpose: This study explores a web application solution for the users to visit stores physically during pandemic/crisis times without contamination to get services and products based on the store visited peoples' experiences using case-based reasoning in AI. It also gives a solution to reduce unemployment during pandemics.

Methodology: Questionnaire data was collected from 50 people to analyze the interest in visiting stores during pandemics. Once accomplished the system development using case-based reasoning, the system had been evaluated by selected potential system users using Questionnaire data, collected from 88 randomly selected consumers and providers. And analyzed the results to find out benefits and shortcomings.

Findings: Analyzed participants' responses and derived that most of the people wanted to visit grocery stores during the pandemic and some wanted to spend their leisure time in shopping physically during the pandemic, but the contamination was the concern. This Case- Based Reasoning app helped the users to find the stores with safety measures and for the traders to change their business according to the customer requirements.

Implications: The findings help the customers to visit the stores during pandemic and crisis and the traders to change their products according to customer requirements.

Originality: This is the first study of using Case-Based Reasoning application in the Trading context. The survey instrument and research design are original contributions.

Keywords: Case-Based Reasoning, AI, Pandemic

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Digitalization for Sustainability

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ABSTRACT

Purpose: The purpose of this research is to explore the potential of digitalization in fostering sustainability across various sectors and domains.

Methodology: As part of the technique, a thorough literature analysis is conducted to determine current understanding and trends in digitalization for sustainability. Furthermore, case studies and expert interviews will be carried out to obtain insights into real-world implementations and obstacles.

Findings: The research identifies the diverse ways in which digitalization can contribute to sustainability efforts, ranging from energy efficiency and waste reduction to smart transportation and green supply chains. It also highlights the barriers and limitations that need to be addressed for maximizing the benefits of digitalization for sustainability.

Implications: Policymakers, companies, and organizations can benefit from the research' useful advice on how to use digital technologies to improve sustainable practices. To bring about significant change, implementation, resource allocation, and cooperation strategies are offered.

Theoretical Contribution: Through the analysis of the relationship between sustainability and digitalization, the research advances our knowledge of the ways in which technology can influence social and environmental change.

Originality: This research contributes to the evolving discourse on sustainability by focusing specifically on the role of digitalization, offering fresh perspectives and insights into its implications for sustainable development.

Keywords: Digitalization, Sustainability, Digital Transformation, Digital Technologies & Sustainable Digitalization

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Digital Transformation is a Key to Sustainable Development

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ABSTRACT

Purpose: The purpose of this research is to explore the role of digital transformation in fostering sustainable development. It aims to examine how digital technologies can be leveraged to address environmental, social, and economic challenges, ultimately contributing to long-term sustainability.

Methodology: Administer surveys and conduct interviews with experts in the fields of digital technology and sustainable development to gather insights, perspectives, and empirical data. And employ qualitative and quantitative data analysis techniques to synthesize findings from literature.

Findings: Digital transformation leads to more information, increased productivity, better data-driven decisions and a wider customer reach for businesses, especially for micro, small and medium enterprises which have often been the main driver of post-COVID-19 economic recovery. Digital platforms and infrastructure can support efforts at poverty reduction by spurring economic activity and creating new jobs. It serves as an important foundation for navigating not just development but also crises such as conflict situations in fragile contexts, natural disasters, or pandemics. Digital transformation is the integration of digital technologies into all areas of business, changing how economic and social activities are conducted.

Implications: Putting digital transformation methods into practice can help with sustainable development by improving resource management, innovation, and efficiency in a number of industries, including transportation, energy, healthcare, and agriculture. It can result in easier access to markets, services, and information, which will boost economic growth and lessen the negative effects on the environment and social inequalities.

Theoretical Contribution: This study clarifies the critical role that digital transformation plays in accomplishing sustainable development objectives and offers insights into the ways in which complex societal issues can be addressed with the help of technology breakthroughs. By emphasizing the connections between digitalization and sustainability, providing a framework for examining and comprehending the dynamics of this relationship, and assisting businesses, organizations, and policymakers in implementing strategies that

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support both technological advancement and sustainable practices, it adds to the body of literature.

Originality: Expert opinions and interviewed data were originally collected for this research and proper literature studies were conducted specifically.

Keywords: Digitalization, Digital Transformation, Digital Technologies, Digital Platforms & Sustainable Development

Potential of the Digital Transformation for the Sustainable Development of the Tourism Enterprises in India

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ABSTRACT

Purpose: The travel industry is witnessing rapid changes due to the advent of digital technologies. Sustainable development is a key concept in the twenty-first century that aims to achieve a balance between present resource usage and responsibilities to future generations. This article discusses the development path and related counter measures of the digital transformation of tourism enterprises. It also aims to explore the evolution of the concept of sustainable tourism development and to investigate the possibilities of the digital ecosystem in achieving this sustainability. In the literature review, the concept and significance of digitalization, industrial transformation and tourism digital transformation are analysed.

Methodology: Through data calculation and result analysis, the digital level and contribution of India's tourism industry is evaluated. In the restriction analysis, the paper focuses on the constraints of online tourism, sustainable development, infrastructure, development potential and information technology level.

Findings: The results have shown that digital transformation is one of the urgent requirements of all socio-economic activities during the 4th industrial revolution. With poor capacity to finance technology solutions, digital transformation towards smart tourism proceeds quite slowly, impacting badly on tourism sustainable development.

Implications: The findings provide insights to help professionals formulate strategies to attract new tourists. The key measures to strengthen customer demand insight, strengthen the construction of information technology infrastructure, promote the application and innovation of new technologies, and strengthen the development of social responsibility projects are put forward in the path selection and countermeasures. This study has important guidance for promoting the digital transformation and sustainable development of tourism.

Originality: This is the first study investigating digital transformation towards smart tourism in Indian context. The survey instrument and research design are original contributions.

Keywords: Tourism Enterprises, Digital Transformation, Sustainable Development

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The Impact of Social Media Influencer Marketing on Consumer Purchase Intention (With Special Reference to the Cosmetics Industry in Sri Lanka)

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ABSTRACT

Purpose: This research paper delves into an examination of the influence of social media influencer marketing on consumer purchase intent, with a specific focus on the cosmetics industry in Sri Lanka.

Methodology: The study employs a quantitative approach to investigate this phenomenon, treating social media influencer marketing as the independent variable and purchase intention as the dependent variable. Data was collected through a structured questionnaire employing a five-point likert scale. The study utilizes convenience sampling to collect cross-sectional data from 250 respondents in Sri Lanka.

Findings: The results of the correlation analysis indicate a statistically significant and positive relationship between Social Media Marketing and Purchase Intention. In the model developed, it is found that Information Quality, the Relationship between Influencers and Products, and Consumer Involvement collectively account for 69.9% of the variance in consumer purchase intention.

Practical Implications: This study holds potential for enhancing social media influencer marketing strategies in the cosmetics industry, highlighting the significant role of social media marketing activities in influencing customer purchase intention.

Research Limitations: This study limits to the cosmetic users, the study used only one emerging market country, Sri Lanka, and the small sample size also can be recognized as the limitations.

Originality: These are few studies investigating the impact of social media influencer marketing on consumer purchase intention in the Sri Lankan perspective.

Keywords: Information Quality, Relationship between Influencers and products, Consumer Involvement

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Digital Transformation in Financial Institutions Amid Recent Changes in Algeria.

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ABSTRACT

Purposes: this study aims to address a contemporary topic that captures the interest of the financial community by examining the evolution of digital financial services in financial institutions in Algeria.

Methodology: The descriptive methodology was employed to delve into the theoretical aspects of the subject. As for the practical aspect, the study covers the period between 2019 and 2022, representing the latest available statistics. Data for the research were obtained through content analysis of the annual reports of the Bank of Algeria.

Findings: The study found that Algeria is among the countries actively pursuing digital expansion in financial institutions by increasing the number of ATMs, electronic payment cards, and other initiatives. Additionally, digital transformation works to facilitate financial and banking transactions.

Implications: The results of this study may have significant effects on the financial community and stakeholders, particularly in terms of enhancing diversity in digital financial services and fostering innovation in the digital transformation of financial institutions.

Theoretical Contribution: This study contributes to defining the importance of digital transformation in financial institutions and its practical implementation in Algeria.

Originality The research aims to provide additional evidence in this area. Furthermore, this study stands out as one of the limited research efforts contributing to this field, in addition to analyzing the obstacles and challenges, especially given Algeria's classification as a developing country

Keywords: Digital transformation, financial institutions, the financial sector, Digital financial services

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The Impact of Managerial and Firm Characteristics on The Internationalization of The Processed Food and Beverage Industry in Sri Lanka

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ABSTRACT

Purpose: This study aims to investigate the impact of managerial and firm characteristics on the internationalization of Sri Lankan exporting small and medium-sized enterprises (SMEs) in the processed food and beverage industry.

Design/Methodology/Approach: The study was conducted on 165 exporting SMEs in Sri Lanka's processed food and beverage industry, using purposive sampling and structured questionnaires. Data were analyzed using hypotheses tests, factor analysis, and multiple regression analysis. The dependent variable is SME's internationalization by export performance. The independent variables are managerial and firm characteristics. Managerial characteristics include age, education, international experience, and entrepreneurial orientation, while firm characteristics include age, size, export experience, and ownership.

Findings: Managers with postgraduate education and firms with 51–300 employees have positive impacts on the internationalization of SMEs in Sri Lanka. However, the entrepreneurial orientation of managers has a negative impact on the internationalization of SMEs in Sri Lanka.

Practical Implications: Sri Lankan SMEs' international growth is driven by well-educated managers who can navigate complex markets and cultures. These SMEs, with 51–300 employees, have sufficient human resources for export market exploration and strategy implementation.

Research Limitations: This study is limited to Sri Lankan exporting SMEs in the processed food and beverage industry and cannot be generalized to larger companies.

Originality/Value: This study is crucial for Sri Lankan SMEs as it provides significant insights for policy formulation and government assistance measures related to internationalization.

Keywords: Export performance, internationalization, processed food and beverage, SMEs, Sri Lanka

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Challenges Faced by Small Entrepreneurs: Study Based on J/109 Grama Niradhara Division, Nallur Divisional Secretariat of Jaffna District

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ABSTRACT

Purpose: This study is carried out with the main objective of identifying the challenges faced by the small business entrepreneurs in the J/109 Grama Niradhara Division.

Methodology: This study is a quantitative and descriptive study involving 40 people who were selected through the simple random sampling from small business ventures in food, animal husbandry, clothing, handicraft and leather production in J/109 Grama Niradhara Division under Nallur Division. The primary data and secondary data have been used for the study. Qualitative data were analyzed thematically, and quantitative data were descriptive.

Findings: The study reveals that **80%** of women are involved in small business ventures, and they encounter numerous challenges like lack of capital and subsequently increase in the price of raw materials, insecure location, high interest rates for loans, problems related to small business registration process, and insufficient storage facilities.

Implications: The findings provide a solution to the challenge encountered by small entrepreneurs.

Limitations: The sample selection of the study was limited due to the lack of registration and continuous operation of some registered small business ventures among the small business entrepreneurs.

Originality: This study is significant as it is the first of its kind to be conducted in the Nallur area.

Keywords: small entrepreneurs, challenges, capital

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A Study of Psychological Distress Among the Old Age's Caregivers

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ABSTRACT

Purpose: This study aims to investigate the factors that contribute to psychological distress among caregivers of the elderly in order to provide valuable insights for developing supportive interventions.

Methodology: Data was collected through a questionnaire administered to the families of 120 elderly people (60 men, and 60 women) who were randomly selected from the Valikamam West Divisional Council. Microsoft Excel was used for the numerical analysis of the questionnaire responses. Concurrently, qualitative analysis was applied to data obtained through interviews, books, and websites. This study employs a mixed-method approach, integrating both quantitative and qualitative analytical methods.

Findings: Female caregivers of the elderly (64.68%) experienced higher levels of psychological distress than male caregivers (35.32%), Unemployed caregivers (73.33%) experienced more distress than employed caregivers (27.24%), Caregivers from nuclear families (61.48%) had more distress compared to those from joint families (38.52%), and the caregivers of bedridden elderly (81.24%) experienced greater distress.

Practical Implications: Support programs could be developed to target vulnerable caregiver groups. Policies could better support caregivers through flexible work arrangements, financial assistance, and improved access to affordable in-home care.

Research Limitations: Small sample size limits generalizability of findings. Specific cultural context may restrict the applicability of finding to other populations.

Originality: This study pioneers an exploration of psychological distress in Sri Lankan caregivers of the elderly. The findings indicate a heightened risk for female caregivers, unemployed caregivers, caregivers from nuclear families, and bedridden elderly caregivers. These findings can be used to develop targeted interventions to reduce caregiver distress.

Keywords: Old age, Caregivers, Distress

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Occupational Health Challenges Faced by Plantation Workers: A Study Focused on the Stony Cliff Region

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ABSTRACT

Purpose: Identify health challenges faced by plantation workers at work places

Methodology: This study used Mixed Research Methods. Questionnaire data was collected from   63 listed and unlisted peoples, 08 interviews done by field related people, also data collect from focus group discussion and observations. And the secondary data collected through scholar articles research articles book and website related Upcountry.

Findings: The study results got the table and graph based on that find challenges as lack of toilet and restrooms, lake of first aid medicines, increase the impact of animals and poisons insects, lake of proper ambulance facilities and lack of base health awareness practices.

Recommendation: Plantation management should construct toilet and restroom at each works site, create storage of First aid material at work site, dispose of wild animals from the worksite with proper safeguards, speed up the ambulance facilities for the plantation and create awareness among the plantation people regarding industrial health activities. Such recommendations are presented at the end.

Originality: This is the first study focusing on Plantation workers Health Challenges in Sri Lanka. The research Design are original contributions.

Keywords: plantation, tea, challenges, health, economy

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Assessing the Perception of Generation Z Towards Genderless Fashion to Achieve SDG 05, Gender Equality

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ABSTRACT

Purpose: This study delves into Sustainable Development Goal 5 by analyzing contemporary gender roles from the viewpoint of Gen Z's perceptions of genderless fashion. Fashion is a powerful tool that challenges conventions amidst societal shifts. SDG 5, focusing on gender equality, transcends legal frameworks, embracing cultural changes. As change agents, youth express unique perspectives on genderless fashion, reflecting evolving norms. The investigation explores how fashion challenges gender conventions, with youth contributing to perceiving genderless fashion, embodying changing cultural standards and fashion trends.

Methodology: Quantitative and qualitative research methods utilized to gather, sort, and analyze data. The study was conducted based on consumers in the Colombo district by sending 300 online questionnaires, receiving 206 completed questionnaires, and conducting 9 structured face-to-face interviews with 9 trend-following consumers and 8 online store owners.

Findings: Findings showed the Sri Lankan young fashion consumer group's open-mindedness and interest in trying new unconventional trends. Understanding their perspectives unveils how fashion challenges ingrained gender preconceptions, acting as a catalyst for societal change.

Implications: The findings have identified opportunities to navigate the dynamic crossroads of fashion, identity, and equality locally.

Theoretical Contribution: The unique blend of cultural and religious subtleties, unraveling acceptance of genderless fashion, and the ways of fostering SGD 05 are revealed in this study.

Originality: This is the first study investigating Generation Z's perception of genderless fashion to achieve SDG 05, gender equality in the local context. Fashion designers and policymakers will benefit from this study.

Keywords: genderless fashion, consumer perception, Z generation, sustainable goals, gender equality, culture

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The Impact of Using Mobile Finance Application to Enhance Customer Adoption: A Study on Commercial Banks in Sri Lanka

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ABSTRACT

Purpose: Thus, this study explores the impact of mobile finance applications to enhance customer adoption in a selected leading financial company in Sri Lanka order to accomplish the task, many scholarly literatures are reviewed by the author regarding the areas of mobile finance applications and acceptance among customers. As a result, Commercial Banks in Sri Lanka are used as to examine how mobile finance applications influence the adoption of customers. The Theory of Planned Behavior (TPB) serves as the foundation for developing the research framework.

Design/Methodology/Approach: quantitative research methodology has been adapted in this research. Using online questionnaire primary data was collected among 374 customers who are using mobile banking application in South Eastern Region.

Findings: Findings revealed that five out of six hypotheses were supported. Five factors, namely perceived ease of use, perceived usefulness, compatibility, perceived risk, and perceived behavioural control, were found as significant drivers of intention towards using mobile banking adoption. This study contributes by providing evidence with a developing context.

Practical Implications: The findings of the study provide valuable insights into the adoption and usage of mobile banking by bank customers The practical implications include the development of mobile financial applications, features, adaptable interfaces, and real time customer service that serve to customers' needs and preferences.

Research limitations: The study responses were accumulated from the users of mobile financial applications in Batticaloa District.

Originality value: Finding of the study provides valuable insights into mobile banking adoption and usage, which could benefit researchers, practitioners and policy makers.

Keywords: technology acceptance model, mobile financial application, perceived ease of use, perceived usefulness

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Demand Driven Factors of Inflation in Sri Lanka: An Econometric Analysis

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ABSTRACT

Purpose: This study investigates on the demand driven determinants of inflation in Sri Lanka. It also examines long run relationship among the macroeconomic variables.

Methodology: This study uses time series data for the period 1977 to 2022. Cointegration technique is used to identify the determinants of inflation. The variables, money supply, forging exchange rates, treasury bill rate, budget deficit government expenditure, gross domestic production , real wage rate import price index have been considered based on literature.

Findings: The trend analysis of inflation shows a high variation of price level within the Sri Lankan economy while foreign exchange rate, gross import price index, and money supply show a volatility trend with high shocks. Gross domestic product and treasury bill rate have structural breaks for both intercept and trend. According to the findings of this study. Once the augmented Dicky-Fuller Test result confirmed the stationarity of the data at level and first difference level, with the availability of the co-integration among the variables, it was concluded to develop an error correction model (ECM) to analyze the long-run relationship between the variables while eliminating the spurious effect of ordinary least square method. Thus, the ECM confirmed that short-run coefficients of ECM are not significant, and it emphasizes that the system corrects the disequilibrium of its previous period at a speed of 4.82% annually.

Implications: The findings provide insights to help policy makers and government to formulate strategies to control inflation in Sri Lanka.

Originality: This is the recent study investigating macroeconomic factors influencing inflation in Sri Lanka .

Theoretical Contribution: This study contributes existing literature and macroeconomic concepts.

Keywords: Inflation, foreign Exchange rate, Import price index, co integrations

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Exploring the Determinants of Consumer Behavior: A Study in The Perspective of Consumer Law

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ABSTRACT

Purpose: The aim of the study is to address the lack of understanding into the consumer behavioral determinants in the perspective of consumer protection measures and law, by uncovering the importance of law-related determinants to interested parties, and to shed light into the frequent violations of consumer rights, and the possible challenges that hinder the effective enforcement of consumer law.

Methodology: The study follows a qualitative research approach, where the maximum variety sample technique was used to ensure data richness from a sample of 09 participants using semi-structured interviews. The results were then analyzed using thematic analysis, with the use of interpretivist philosophy.

Findings: Consumers were found to pay attention to law-related determinants of price adherence, product information, merchantable quality, and fit for purpose. Issues of price exploitation, consumer misleading, quality concerns, and sale by sample violations, were also identified. Furthermore, challenges to consumer protection, including consumers' lack of awareness, reluctance to redress, lack of morality, and media malpractices, were found.

Implications: The study's practical implications align with the objective of setting a proper understanding into consumer determinants in the perspective of consumer law, and the legislative deficiencies uncovered through the study are directed to policymakers in revamping country's consumer protection policy.

Originality: Unlike the previous studies that have attempted to explain known behavioral determinants, this study makes a new contribution in the perspective of consumer protection measures, concerning consumer law, by exploring and uncovering new variables, in order for them to be included in policymaking to ensure effective fulfilment of consumer protection in the country.

Keywords: Behavioral Economics, Consumer Behavior, Consumer Law, Consumer Protection, Consumer Rights

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Impact of Dividend Policy on Market Share Price: Evidence from Sri Lanka

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ABSTRACT

Purpose: This study focuses on studying the impact of dividend policy on the share price of the companies in the context of non-financial companies listed in the Colombo Stock Exchange in Sri Lanka for the period of 2017 to 2021 using panel data analysis.

Design/ Methodology: A sample of 90 non-financial firms are taken for this study with the observations of 450. The pooled OLS, fixed effect model, and random effect model are employed to study the relationship between independent variables Dividend Per Share (DPS), Dividend Pay-Out ratio (DPO), Dividend Yield (DY), and the dependent variable of Market Price per Share (MPS). Hausman and LM test revealed that the fixed effect model is appropriate for the study.

Findings: The fixed effect model produced F statistic of 29 with a probability of 0.0 which indicates the model is suitable for the study and the Adjusted R^2 of the study is 88.54% which highlights 88.54% of the variability in the share price is determined by the variables which are taken for the study. The model reveals a positive significant relationship between DPS, DPO, and share price. This can be justified through signaling theory and dividend relevancy theory. Further, the model reveals a significant negative relationship between DY and the share price of the company. This is mainly because a higher dividend distribution may diminish the growth potential of the company.

Practical implications: The study results provide valuable insights for academicians, practitioners, investors, and policymakers in embedding dividend-related decisions into their respective domains.

Originality: This research adds to the existing body of knowledge on dividend policy and its implications for share prices, particularly within the Sri Lankan context.

Keywords: Share price, Dividend Policy, Colombo Stock Exchange, Dividend Decisions

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The Pivotal Role of IoT in Nurturing a Sustainable Environment

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ABSTRACT

Purpose: This research paper delves into the transformative role of the Internet of Things (IoT) as a key driver for achieving a sustainable environment. Also aimed analyses the pivotal role of IoT in resource management. It explores how smart technologies, facilitated by IoT, optimize energy consumption, reduce waste, and enhance overall resource efficiency.

Methodology: The paper commences by elucidating the fundamental principles of IoT and its integration with environmental monitoring systems. And to explore how IoT might support environmental sustainability, a mixed-methods approach comprising quantitative surveys, qualitative interviews, and literature review is used in the research process. Case studies will be added to thematic and statistical analysis of data gathered from various stakeholders. Integration of the results will result in suggestions that are verified by peer review and recorded for distribution.

Findings: The convergence of IoT with environmental science presents a paradigm shift, allowing for a more nuanced understanding of ecosystems and their intricate interdependencies. And this case studies illustrate the implementation of IoT-driven solutions in smart cities, agriculture, and industrial sectors, showcasing tangible benefits such as reduced carbon footprints and improved resource utilization.

Implications: The escalating challenges posed by climate change and environmental degradation necessitate innovative solutions that harmonize technological advancements with ecological preservation

Theoretical Contribution: This study clarifies the revolutionary effect of Internet of Things (IoT) technology for promoting environmental sustainability. By examining how IoT enables real-time monitoring, data analytics, and decision-making processes to optimize resource management, lessen environmental degradation, and improve resilience in diverse ecosystems, it advances theoretical understanding.

Originality: IoT-enabled sensors and devices have revolutionized data collection and analysis, providing real-time insights into ecological processes.

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The research also probes into the proactive role of IoT in climate change mitigation and adaptation. By enabling predictive modeling and early warning systems.

Keywords: Sustainable Environment, Pivot role, IoT

Technology for Sustainable Dentistry- Digital Dentistry

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ABSTRACT

Purpose: This research is aimed to explore the role of digital dentistry technology in promoting sustainability within the dental industry, aiming to assess its environmental impact, efficiency improvements, and patient outcomes.

Methodology: The research employs a mixed-methods approach, incorporating literature review, case studies, and surveys with dental practitioners and industry experts. Data collection focuses on understanding the adoption, implementation, and impact of digital dentistry technologies on sustainability practices.

Findings: The advent of the intraoral scanner, digital radiography, (CAD)/Computer-Aided Manufacturing (CAM), 3D printers, and artificial intelligence (AI) software revolutionized the field of dentistry as we know it today. Precision and accuracy are two of digital dentistry's key benefits. Taking images following diagnosis saves patients time by eradicating the need for extra appointments he clinicians to treatment-plan. Ultimately, this results in faster treatment turnaround times. Patients can see the issues that need treating, which gives them the confidence to trust the practice to provide them with complex treatment. It also builds confidence in our communication with patients who are safe in the knowledge that we are sharing accurate information. And as we are fully digital, it minimises the environmental impact of waste. The ability to take images immediately rather than requiring patients to travel to other sites for imaging limits travel and brings down those CO_2 emissions. Digital dentistry has revolutionized dental education and transformed oral health practices. The integration of digital resources, such as simulation software and virtual reality technologies, within dentistry schools has significantly enhanced the effectiveness and efficiency of instruction for students.

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Implications: The findings provide useful information on how to integrate digital dentistry technologies to support sustainability for dental practitioners, dental laboratories, and policymakers. Among the suggestions are making training investments, switching to environmentally friendly products, and streamlining processes to maximize both financial and environmental gains.

Theoretical Contribution: By investigating the relationship between digital dental technology and sustainability principles, this study contributes to theoretical understanding. It provides frameworks for examining the effects of digital technology adoption in dentistry on the environment, efficiency improvements, and patient-centered results. Furthermore, it advances the conversation on sustainable healthcare practices by illustrating how digital solutions can be used to encourage environmental stewardship in particular healthcare domains.

Originality: This study offers novel perspectives on how technology and sustainability interact in the dental sector. It illuminates the revolutionary potential of digital dentistry in tackling sustainability concerns while enhancing patient care and operational efficiency by fusing theoretical frameworks with empirical data.

Keywords: Sustainable Dentistry, Digital Dentistry, Dental Professionals, Dental Education & Oral Health Practices

Study on the Potential Application of Zakat and Sadaqa on Livelihood Projects

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ABSTRACT

Purpose: This study explores applying Zakat and Sadaqa to livelihood projects for systematic poverty alleviation, drawing inspiration from Islamic finance principles. Rooted in the Quran's teachings, Zakat emphasizes poverty alleviation and social justice, aligning with Sustainable Development Goals (SDGs). The primary objective is to explore Zakat practices for effective poverty alleviation, with sub-objectives focusing on global Zakat practices, poverty assessment, distribution efficiency, socio-cultural factors, and concept refinement.

Methodology: The study employs literature surveys, data analysis, on-the-ground research, stakeholder interviews, focus group discussions, and meetings with relevant officers. It covers comprehensive literature examination, quantitative poverty analysis, on-the-ground research in selected district places in Sri Lanka, and administrative structure assessment, utilizing SPSS application for quantitative analysis.

Findings: Findings reveal that while Zakat and Sadaqa hold significant potential for poverty alleviation, their impact can be optimized through improved administrative structures and targeted distribution strategies. Socio-cultural factors play a pivotal role in shaping poverty dynamics, emphasizing the need for culturally sensitive interventions. The study identifies key opportunities for enhancing the efficiency and effectiveness of Zakat and Sadaqa utilization in livelihood projects.

Implications: This study underscores the significance of leveraging Islamic finance principles for poverty alleviation and sustainable development, providing valuable insights useful for policy makers and relevant bodies to make informed decisions and formulate effective strategies.

Theoretical Contribution: Through a holistic approach encompassing research, analysis, and stakeholder engagement, it contributes to the discourse on effective poverty eradication strategies.

Originality: The commitment to inclusive and sustainable development models underscores the transformative potential of Zakat and Sadaqa in fostering

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societal betterment. This new research aims to explore the untapped potential of Zakat and Sadaqa in addressing poverty through argeted livelihood projects, offering a novel approach to Islamic finance principles for sustainable development.

Keywords: Zakat, Sadaqa, Poverty alleviation, Islamic finance, Sustainable Development Goals

Do Credit and Liquidity Risk Management Practices Increase the Profitability of Financial Institutions in Sri Lanka?

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ABSTRACT

Purpose: The study aims to understand the effectiveness of credit and liquidity risk management practices of banking and non-banking financial institutions in Sri Lanka before the economic crisis starts in the year 2022 and to realize whether these risk management practices are supported to increase the profitability.

Design/ methodology/ approach: The study collected annualized data in each quarter from 2014 to 2021 and employed multiple regression model through Eviews software.

Findings: The study revealed that, in Sri Lanka, banking and non- banking financial institutions had effective credit risk management which is significantly supported to increase the profitability while poor liquidity risk management of both categories of financial institutions is significantly impacted to reduce the profitability. Thus, the study concludes that good credit and liquidity risk management practices are essential to increase the profitability of financial institutions.

Practical Implications: The findings offer insights to help financial institutions to maintain effective credit risk management as previous or in more advances and for decision making to bring an effective liquidity risk management to significantly contribute to increase profit more.

Research Limitations: The study data was collected from 1st quarter of 2014 since the Central Bank published soundless indicators' sheets of non-banking financial institutions from the fourth quarter of 2013. Furthermore, the study data was collected till the end of year 2021 since financial companies have liberal credit policy and illiquidity for satisfying customers' demand from year 2022 due to the economic crisis of Sri Lanka.

Originality: This is the first study between banking and non-banking financial institutions to examine the support of credit and liquidity risk management practices to increase profitability.

Keywords: Liquidity Risk, Credit Risk, Profitability, Banking Institutions, Non-Banking Financial Institutions

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An Econometrics Analysis of Inflation and Budget Deficit in Sri Lanka (1990 -2022)

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ABSTRACT

Purpose: The primary objective of this study is to assess the impact of budget deficits on inflation in Sri Lanka from 1990 to 2022. Additionally, it investigates the short-term, long-term, and causal relationships between budget deficits and inflation in the Sri Lankan context.

Methodology: The Johansson Co-integration test is utilized to assess the long-term relationship between the variables, while the Error Correction Model is employed to analyze short-term relationships. Furthermore, the Granger Causality test is applied to examine the causal relationships between the variables. This study employs the inflation rate as the dependent variable, with budget deficit, gross domestic product, money supply, and lending interest rate serving as independent variables.

Findings: There exists a positive correlation between money supply and lending interest rates with inflation. Conversely, budget deficit and gross domestic production exhibit a notable negative association with inflation. Additionally, a short-run linear relationship is observed between lending interest rates and inflation in Sri Lanka. Furthermore, a unidirectional causality is evident from budget deficit to inflation.

Implications: The budget deficit, money supply, and GDP can serve as policy tools to mitigate the inflation rate in both the short and long run in Sri Lanka.

Keywords: Inflation, Budget deficit, Money supply, Lending interest rate

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Digital Transformation - Driving Innovation in the Healthcare Industry

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ABSTRACT

Purpose: This research aims to investigate how digital transformation drives innovation in the healthcare industry, aiming to understand its impact on patient care, operational efficiency, and overall healthcare delivery.

Methodology: The research utilizes a mixed-methods approach, including literature review, case studies, and interviews with healthcare professionals and technology experts. Data collection focuses on identifying digital technologies implemented in healthcare settings and assessing their impact on innovation.

Findings: By adopting advanced tech solutions, medical institutions can significantly improve staff experience, enhance patient care, reduce cost, optimize operational processes, and enable faster diagnoses. Digital transformation for healthcare encompasses a set of technologies. These tech solutions enable medical professionals to utilize modular digital solutions to improve patient experience, discover drugs, streamline operations, and make on-demand care more accessible.

Implications: The findings provide practical insights for healthcare organizations, policymakers, and technology providers on harnessing digital transformation to drive innovation. Recommendations include strategies for integrating digital tools, addressing regulatory challenges, and fostering a culture of innovation within healthcare settings.

Theoretical Contribution: This study advances our theoretical knowledge of how digital transformation promotes innovation in the healthcare industry. It compiles the body of information already in existence and suggests frameworks for examining the connection between innovation in healthcare delivery and digital technologies.

Originality: This study provides novel insights into the ways that innovation in the healthcare sector is fueled by digital transformation. It adds to a deeper understanding of the opportunities and difficulties involved with harnessing digital technologies for revolutionary change in healthcare delivery by fusing theoretical frameworks with empirical data from case studies and interviews.

Keywords: Digital Transformation, Digitalization, Health Care, Digital Solutions, & Medical Professionals

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Analysis of the Philips Curve in the Sri Lankan context.

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ABSTRACT

Purpose: The purpose of this study is to critically analyze the Phillips Curve, a fundamental concept in academic economics, and its applicability to understanding the relationship between inflation and unemployment, particularly in the context of Sri Lanka. This study aims to highlight the limitations of the Phillips Curve as a tool for economic policymaking and suggests that its simplicity renders it unsuitable for effectively managing the Sri Lankan economy.

Methodology: Sri Lanka's macroeconomic (Secondary) data from 1997 to 2023 was analyzed using Excel software, graphical description approach.

Findings: This study finds that while the Phillips Curve was initially influential, its practical utility has diminished over time, especially in the long run. The study argues that the trade-off between inflation and unemployment suggested by the Phillips Curve is too simplistic, and its application in managing the Sri Lankan economy may lead to unintended consequences, such as increased inflation and persistent unemployment.

Implications: The implication of the study suggests that relying solely on the Phillips Curve for economic policy decisions in Sri Lanka may be inadequate. Policymakers need to consider the short-run and long-run limitations of the Phillips Curve, recognizing that inflation and unemployment dynamics are more complex than the curve implies. The study also implies that a more nuanced understanding of the relationship between inflation and unemployment is necessary for effective economic management.

Theoretical Contributions: This study contributes to economic theory by questioning the long-term effectiveness of the Phillips Curve as a predictive tool.

Originality: The study's originality lies in its critical evaluation of the Phillips Curve, presenting arguments against its practical effectiveness in managing the Sri Lankan economy. The inclusion of counterarguments and replies adds depth

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to the discussion, showcasing the complexity of the relationship between inflation and unemployment.

The COVID-19 Pandemic's Effect on Sri Lanka's Imports and Exports

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ABSTRACT

Purpose: This study's primary goal is to investigate how the COVID-19 epidemic has affected Sri Lanka's import and export of various commodities and services. Both international trade and the world economy have suffered significantly as a result of the COVID-19 epidemic.

Methodology: This study adopted the logistic regression method to achieve the above objective. Over the 60-month period from January 2018 to December 2022 in order to answer this issue. Data on imports and exports were gathered from the Census Department and the Central Bank. The COVID-19 epidemic is an independent (binary) variable. Exports and imports are dependent variables in two different models. Other macroeconomic variables, such as GDP and inflation, are used as control variables.

Findings: According to the results, the COVID-19 epidemic significantly impacts both exports and imports. Above all, it illustrates the detrimental effect on both. The COVID-19 pandemic has also significantly boosted economic growth. The primary source of the effects was the export of clothing; the lockdown that followed the pandemic's start caused problems for the export of agricultural products. There's no question that falling oil costs and decreased consumer demand for pharmaceuticals and medical supplies contributed to some of the decrease in imports.

Implication: As a result, it offers several recommendations to expand crisis management options for global commerce, such as moving the customs clearance process online and updating the conventional method; digitalizing divisions and services will lessen COVID-19's negative consequences on international trade.

Theoretical contribution: It diversifies the new theoretical foundation for epidemic effects on macroeconomic variables. Also, it directs so many suggestions to crisis management and illustrates the extraordinary costs incurred by the epidemic, which compelled the necessary infrastructural improvements and economic expansion.

Originality: Using logistic regression analysis to measure the epidemic effect on a import and export

Keywords: Import, Export, Covid-19 pandemic

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Human Resource Information Systems and Organizational Performance: Special Reference to Government Banks in Ampara District, Sri Lanka

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ABSTRACT

Purpose: Today organizations are transforming their Human Resource Management practices from manual processes to electronic processes. The aim of the study is to explore the influence of Human Resource Information Systems (HRIS) on the organizational performance of Public Sector Banks in Ampara District.

Methodology: Ampara, Dehiattakandiya, Mahaoya, Sammanthurai, Nintavur and Kalmunai People's Bank and Bank of Ceylon branches of Ampara district in Sri Lanka were considered. It attempts to examine how HRIS modules such as E-recruitment, E-training, E-performance, E-payroll and Employee self-service influence the performance of the organization. Structured questionnaire data was collected from 199 employees from these public sector banks.

Findings: The results revealed that the human resource information system influences organizational performance, and the organization have an average level of usage of HRIS. Also, it describes that recruitment, pay management and training and development practices are the most active functions which used the HRIS in the selected banks.

Implications: The findings offer insights to help banks implement human resource information systems to get better organizational performance.

Theoretical Contribution: A comprehensive survey result provides empirical support to the existing body of knowledge.

Originality: This investigation gives direction for future researchers in public sector bank employees to gain more understanding to use the Human Resource Information Systems as the original contributions.

Keywords: Human Resource Information Systems; Organizational Performance; Public Sector Banks

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Service Quality, Its Association and Impact with Patient Satisfaction among OPD Attendees at Base Hospitals in Regional Directorate of Health Service, Kalmunai

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ABSTRACT

Purpose: The aim of this research was to describe the level of Service Quality(SQ) and Patient Satisfaction(PS), association and impact of service quality on patient satisfaction among OPD attendees at Base Hospitals in RDHS Kalmunai.

Methodology: A pre-tested, structured, and interviewer-administered questionnaire was employed using systematic random sampling. Data was collected from 383 OPD attendees. Pearson's correlation coefficient, linear regression, and One-Way ANOVA were used.

Findings: The majority of the respondents (90%) perceived acceptable level of SQ, and 64.0% were satisfied. SQ dimensions showed a positive and strong correlation and a significant impact on PS. Responsiveness showed a positive but insignificant correlation, and waiting time showed a significant negative correlation. None of the socio-demographics showed statistically significant differences.

Implications: Enhanced SQ would lead to greater patient satisfaction. The outcome of this study would be beneficial to policymakers, academicians, and researchers in the concerned area. SQ could be enhanced by promising cleanliness, sanitary facilities and effective communication in OPDs.

Research Limitations: Only the Outpatient and inpatient was not included in this study. Real perception of the respondent might be concealed by the close ended questionnaire.

Theoretical contribution: First, prior studies in Sri Lanka did not use communication or waiting time to evaluate PS. Secondly, only a few studies were conducted on OPD service quality and PS in Sri Lanka, thereby helping to fill the literature gap.

Originality: Study instruments and data are original, and contribution was made by authentic work.

Keywords: Service Quality, Patient Satisfaction, OPD Attendees, Base Hospitals

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Artificial Intelligence for a Sustainable Future: Future Trends

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ABSTRACT

Purpose: This paper tries to analyse the implications of Artificial Intelligence in society and the role it will play in achieving economic growth, modernisation and infrastructure. Advanced AI technologies would need a high energy need and a high carbon footprint. So, an attempt is made in this paper to study the environmental impact of AI to bring about a sustainable future.

Methodology: This paper would be primarily doctrinal with some secondary data collected on statistics by various agencies regarding the use of AI.

Findings: A series of industrial revolutions has dramatically enhanced human living conditions. However, each previous industrial revolution borrowed from the future to pay for the present by obtaining economic expansion at the expense of our planet's health. Today's technological revolution must break this tendency and produce sustained economic development. It is the collective responsibility of corporate, governments, and individuals to think strategically to harness the enormous potential that AI offers to propel economic prosperity coupled with a more sustainable future.

Implication: The findings will provide scope for future researchers to study how AI can be developed and used, giving importance to the environment so that a sustainable future is achieved.

Keywords: Artificial Intelligence, Sustainable future, sustained economic development, technological revolution

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Phillips Curve Analysis in Sri Lanka: Evidence from 1977 To 2022

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ABSTRACT

Purpose: This study examines the validity of traditional Phillips curve for Sri Lanka. Also, this study attempts to investigate the short run and long run relationship between inflation and unemployment as specific objectives to achieve the main objective.

Methodology: This study uses the data of Sri Lanka over the period of 1977 – 2022. This study employs the rate of inflation as the dependent variable and unemployment rate as an independent variable. The data of these two variables was extracted from the Central Bank of Sri Lanka's annual reports. The data were analysed using the Johansson co-integration test and Error Correction Model. ADF and PP unit root tests are utilized to check the stationary properties of each series and AIC criteria is adopted to choose the optimal lag length that can be included in the model.

Findings: Johansson Co integration test results revealed that there is no significant long-run relationship between these two variables, although a co-integrating relationship is observed. Test results of error correction model depict that the negative association between both series but the relationship is not statistically significant. This finding is in line with Florea (2014) and some other studies (e.g., Alisa, 2015). Florea (2014) showed that inflation and unemployment demonstrated three different relationships: not detected, vertical in the long term, and like a spider web.

Implications: Since this study did not identify significant relationship between inflation and unemployment both in the short run and in the long run, we could suggest that Phillips curve is not valid for Sri Lanka further. This implies that their relationship varies from country to country and also changes over time.

Theoretical Contribution: A new comprehensive framework related to econometric analysis incorporates diverse theories on going public decisions. The quantitative methods with qualitative analysis are a methodological advancement in recent research.

Originality: This is the first study that investigating the validity of the Philips curve for Sri Lanka using both Qualitative and Quantitative techniques. This is original contribution of this study.

Keywords: Inflation, Unemployment, Trade-off, Validity, Sri Lanka

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AI (Artificial Intelligence) Driven Financial Accessibility: Fostering Inclusivity in the Digital Era

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ABSTRACT

Purpose: The research intends to explore the transformative effects of AI on enabling digital financial inclusion. Its primary goal is to assess how AI-driven innovations in the fintech sector can facilitate the integration of marginalised groups, such as the impoverished, women, and small business owners, into the formal financial system.

Methodology: The methodology is grounded in a comprehensive review and analysis of existing literature, encompassing peer-reviewed academic journals, industry reports, and authoritative documents. The study employs a desktop research approach, using conceptual and documentary analysis techniques to investigate the role of AI in enhancing digital financial inclusion.

Findings: Findings reveal that AI exerts a notable impact on several fronts: it significantly reduces risks associated with financial transactions, addresses the challenge of information asymmetry, provides enhanced customer support via intelligent chat bots, and significantly improves fraud detection and cyber security measures.

Implications: Implications drawn from the study suggest that embracing AI technology can be a strategic move for financial institutions, non-financial entities, and government bodies aiming to expand financial services to underserved populations. The recommendation is for widespread adoption and upscaling of AI tools to mitigate the challenges faced by the financially inactive and maximise inclusivity benefits.

Theoretical Contribution: Theoretically, the paper contributes to the body of knowledge by demonstrating the potential of AI as an enabling force for financial inclusion within the context of Industry 4.0. It offers a conceptual framework for understanding the role of AI in bridging the divide between traditional banking and the needs of the modern financial consumer.

Originality: The paper presents original insights by examining the intersection of AI technology and digital financial inclusion. It provides a novel analysis of

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how AI-driven strategies can remodel the financial sector to serve the bottom of the economic pyramid effectively.

Study on the Potential Application of Zakat and Sadaqa on Livelihood Projects

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ABSTRACT

Purpose: This study explores applying Zakat and Sadaqa to livelihood projects for systematic poverty alleviation, drawing inspiration from Islamic finance principles. Rooted in the Quran's teachings, Zakat emphasizes poverty alleviation and social justice, aligning with Sustainable Development Goals (SDGs). The primary objective is to explore Zakat practices for effective poverty alleviation, with sub-objectives focusing on global Zakat practices, poverty assessment, distribution efficiency, socio-cultural factors, and concept refinement.

Methodology: The study employs literature surveys, data analysis, on-the-ground research, stakeholder interviews, focus group discussions, and meetings with relevant officers. It covers comprehensive literature examination, quantitative poverty analysis, on-the-ground research in selected district places in Sri Lanka, and administrative structure assessment, utilizing SPSS application for quantitative analysis.

Findings: Findings reveal that while Zakat and Sadaqa hold significant potential for poverty alleviation, their impact can be optimized through improved administrative structures and targeted distribution strategies. Socio-cultural factors play a pivotal role in shaping poverty dynamics, emphasizing the need for culturally sensitive interventions. The study identifies key opportunities for enhancing the efficiency and effectiveness of Zakat and Sadaqa utilization in livelihood projects.

Implications: This study underscores the significance of leveraging Islamic finance principles for poverty alleviation and sustainable development, providing valuable insights useful for policy makers and relevant bodies to make informed decisions and formulate effective strategies.

Theoretical Contribution: Through a holistic approach encompassing research, analysis, and stakeholder engagement, it contributes to the discourse on effective poverty eradication strategies.

Originality: The commitment to inclusive and sustainable development models underscores the transformative potential of Zakat and Sadaqa in fostering

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societal betterment. This new research aims to explore the untapped potential of Zakat and Sadaqa in addressing poverty through targeted livelihood projects, offering a novel approach to Islamic finance principles for sustainable development.

Keywords: Zakat, Sadaqa, Poverty alleviation, Islamic finance, Sustainable Development Goals

Human to Machine Innovation: Inventorship Vs. Legal Personhood

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ABSTRACT

Purpose: This study is to analyse the legal status of the machine innovations viz Artificial Intelligence (AI) and granting of authorship under the copyright law and other intellectual property rights

Methodology: The research is based on doctrinal and analytical methods used to compare the status of inventorship under different countries.

Findings: The judicial decisions in the United States of America (USA), United Kingdom (UK), and Australia grants authorship to AI for its generated work. Under Indian Law, no such recognition is given till date.

Implications: When the originality of AI generated work is to be analysed, those inventions will automatically form part of prior arts thereby rendering myriads of future human and AI inventions obvious or already existing in the public domain. Indeed, from the liability point of view in infringement of copyright or other Intellectual Property Rights, no liability could be fixed on AI.

Originality: This research is an original work of the researcher to analyse the rights and liabilities of artificial intelligence in copyright work and to find out the need of legislative measures to overcome the debate about originality of AI generated work and to that extent it is an original contribution of the researcher.

Keywords: machine innovation, artificial intelligence, authorship, originality

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Equity Market Volatility Behaviour of Emerging Countries With Japan – A Garch Approach

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ABSTRACT

Purpose: The primary objective of this paper is to examine equity market volatility behaviour of emerging countries: India, Sri Lanka, Brazil, China, and Pakistan with developed country: Japan.

Methodology: GARCH and EGARCH model are opted in this study to analyse the impact of volatility spillover between developed country with selected emerging countries. Weekly data from 1st April 2012 to 31st March 2022 is considered in this study.

Findings: EGARCH analysis reveals bidirectional effects for Brazil, Sri Lanka and Pakistan stock market with Japanese stock market. GARCH analysis reveals uni -directional relationship exist between CSE   Nikkei 25, Bovespa   Nikkei 25 and Nikkei 25   KSE. No relationship found between India and Japan stock market. EGARCH reveals coefficient to be positive for both the panel, i.e., Chinese and Brazil stock market shows positive shocks.

Implications: Thus, this study helps policy makers to maintain monetary stability in the county. Also helps investors for deciding in international portfolio management/hedging methods.

Keywords: Emerging economies, Japanese stock market, Volatility spillover, GARCH, EGARCH.

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Investigating Religiosity on foreign Product's Purchase Intention

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ABSTRACT

Purpose: This study aims to explain the impact of religiosity on the intention to purchase foreign products, incorporating the role of consumer ethics within the framework of the Theory of Planned Behavior (TPB). Within the realm of consumption, religiosity is posited as an additional factor within the TPB. In the domain of foreign products' consumption, the conceptualization suggests that religiosity precedes TPB components, subsequently influencing foreign products' purchase intentions.

Methodology: This study adopts a descriptive approach and employs a mixed-methods strategy. The research design involves conducting ten semi-structured, in-depth interviews alongside the distribution of 250 surveys among consumers in Eastern Province.

Findings: The primary outcomes indicate a negative impact of religiosity and consumption of foreign products' purchase intentions, aligning with the proposed hypotheses. Surprisingly, religiosity did exhibit a negative association with attitudes towards foreign products' consumption. It was identified as having a negative influence on attitudes, subjective norms, and perceived behavioral control. Notably, subjective norms emerged as the sole significant factor affecting foreign products' purchase intentions within the research context.

Implications: The findings provide insights to help marketers to formulate strategies to attract customers considering their religion.

Theoretical Contribution: The mixed-methods triangulation is a methodological advancement.

Originality: This paper enhances the Theory of Planned Behavior (TPB) by introducing religiosity as an element to its components. Additionally, it innovatively integrates the Theory of Planned Behavior with the Consumer's Ethics theory within the framework of foreign products' consumption. The study strives to focus on foreign products' purchase intentions, uniquely exploring the influence of individual religiosity on these distinct consumer behaviors.

Keywords: religiosity, purchase intention, foreign products

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The Effects of Job Rotation Practices and Intrinsic Motivation on Employee Performance: Mediating role of Job satisfaction in the Private Commercial Banks of Sri Lanka.

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ABSTRACT

Purpose - The purpose of this research is to examine the effects of job rotation and Intrinsic Motivation on employee performance through the mediating role of Job satisfaction in the private Commercial Banks of Sri Lanka

Design / methodology/ approach -The Questionnaires were administered to collect primary data from the 200 managerial and non-managerial level employees in the private commercial banking sectors in Eastern Province of Sri Lanka. Structural Equation modeling was used to analyze the structural relationship between research variables using Smart PLS-4.0**.**

Findings- The findings of this study revealed that job rotation and intrinsic motivation have significant and positive relationship with employee performance and job satisfaction mediates the relationship among variables.

Research limitations- Data have been gathered from banks operating only in the Eastern Province of Sri Lanka. Thereby the findings of the study should not be generalized to the whole commercial bank operating throughout the country.

Practical Implication - The findings of the study provide a clear guidance to the banking practitioners / policy makers to take further steps in achieving the organizational goal through the employee performance.

Originality / value –The study contributes to the current literature by linking job rotation and intrinsic motivation to employee performance through job satisfaction in private banking sectors of Sri Lanka

Keywords: Job Rotation, Intrinsic Motivation, job satisfaction Employee Performance.

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Impact of Dividend Announcement on Share Price: Evidence from Material Sector Companies in Sri Lanka

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ABSTRACT

Purpose: The major aim of the study is to investigate the impact of dividend announcement on share prices and the informational content of dividend announcement pertaining to the listed material sector companies in Sri Lanka

Methodology: The sample of 21 companies from material sector were selected for the study. The daily closing stock prices and published first and final dividend announcements data for the period from 2017-2021 were used as the dependent variables and independent variables respectively. The standard event study method was employed.

Findings: Finding of the study reveals that the dividend announcements lead to positive market reaction by supporting signalling theory.

Practical Implications: This study will specially be useful to prospective investors to make decisions aligning with the dividend announcement pertaining to the listed material sector firms in Sri Lanka

Research Limitations: It was impossible to collect data from all companies in the material sector, since more of them had not issued for the selected period.

Originality/Value: This study motivates the investors to invest in share market despite the current economic crisis by making the decision based on the dividend announcement.

Keywords: Abnormal return, Dividend announcement, Event study, Share price.

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Nexus between Selected Macro Economic Variables and Stock market performance in Sri Lanka During (2017-2022): An econometric analysis

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ABSTRACT

Purpose: This study focuses on examining the relationship between stock market performance and macro-economic variables in Sri Lanka.

Methodology: Money supply, exchange rate, index of industrial production and interest rate have been employed as independent variables and all share price index as dependent variable. It has been carried out with a focus on monthly time series data from January 2017 to December 2022. Econometrics tools such as augmented dickey fuller unit root test, heteroscedasticity test, serial correlation LM test, omitted variable test, stability diagnostic test, normality test, Auto regressive distributed lag model bound test have been used to test the relationship between the variables and error correction model is used to test the short run relationship between the variables.

Findings: The test is revealed that there is positive and significant impact of money supply, exchange rate and index of industrial production on stock market performance while interest rate has negative significant impact on stock market performance in the long run. Further, it is found that there is a negative and significant impact of money supply on stock market performance while exchange rate has a significant positive impact on stock market performance in the short run. Interest rate does not have significant impact on stock market performance in the short run.

Implications: In order to attract stock market investments, the government should take measures such as maintaining stable stock prices, maintaining political and economic stability and developing market facilities and infrastructure facilities. Advances in block chain technologies will open up new avenues for modern stock market transactions.

Theoretical Contribution: Building and refining theoretical models that explain the relationship between macroeconomic[1] variables and stock markets performance contributes to the broader understating of economics and market efficiency theories.

Originality: Introducing innovative methodologies or statistical techniques to analyze the relationship between macroeconomic variables and stock market performance can enhance originality.

Keywords: Stock market performance, Money supply, Exchange rate, Interest rate, Index of industrial production

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The Impact of Selected Components of Public Expenditure and Economic Growth in Sri Lanka During 1990-2022: An Econometric Analysis

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ABSTRACT

Purpose: This study examined the impact of selected components of public expenditure and economic growth in Sri Lanka during the period of 1990-2022 and find out the long run and short run relationship between selected components of public expenditure and economic growth. Selected components of public expenditure are such as defence, health, transport and communication and interest payments.

Methodology: Data for the study have obtained from the annual reports of central Bank of Sri Lanka (CBSL) Department Of census and statistics website and world development indicators website. Economic growth is used as a dependent variable and defence, health, transport and communication and interest payments have been used as independent variables. Dependent and independent variables are used as a percentage of GDP. The independent variables have been converted into Logarithms to avoid the heteroscedasticity problem among the variables. Many econometric tools such as ADF unit root test, Diagnostic test, ARDL model, ARDL Bound test and Error correction model test have been employed to analyse the data.

Findings: This study found that defence and interest payments have a negative impact on economic growth. And health, transport and communication have a positive impact on economic growth. More funds are allocated to defence and interest payments; those are negative impact on economic growth. It is greater than Health and transport and communication expenditure.

Implications: Therefore, the government should allocate the required more funds to the components of public expenditure which induce the economic development.

Theoretical Contribution: Assessing the effectiveness of various types of public expenditure in promoting economic growth contributes to understanding the efficacy of fiscal policy tools and their impact on overall economic performance.

Originality: Employing novel data analysis, techniques or econometric models to study the relationship between public expenditure components and economic growth can offer fresh insights.

Keywords: Public expenditure, Economic Growth, Econometric Analysis, ARDL model.

The Impact of M-Learning on Academic Performance of Undergraduates in Sri Lanka: A Study of South Eastern University of Sri Lanka

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ABSTRACT

Purpose: The goal of this research is to evaluate the usage mobile learning among the youngsters most importantly undergraduates and impact of mobile learning on academic performances of undergraduates in Sri Lanka.

Design/Methodology/Approach: Quantitative research methodology has been adapted in this research. Online questionnaire was suggested to distribute among the undergraduates of SEUSL in Faculty of Management and Commerce. Primary data collection was collected among 200 responses and all responses were taken into consideration. By using IBM SPSS Statistics 26, data analysis was conducted and through that descriptive analysis, correlation analysis, and multiple regression analysis were used during this study.

Findings: Findings of this research have found that actual usage, attitude towards to use, behavioral intention, perceived ease of use and perceived usefulness are important variables to predict usage of mobile learning system among undergraduates. Finding of this research also revealed that above variables have strong significant positive relationship between impact of m-learning on academic performance of undergraduates.

Practical Implications: Mobile learning enhances the worth of education system and make convenient the learning method than conventional teaching and learning method.

Research Limitations: The study responses were accumulated from the undergraduates who are using mobile learning platform in Faculty of Management and Commerce.

Originality/value: Finding of this study will be useful for undergraduates to use m-learning in their academic performance.

Keywords: M-learning, Technology Acceptance Model, Academic performanceu

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Navigating Sri Lanka's ESG Reporting Obstacles: A Route to Sustainable Corporate Disclosure

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ABSTRACT

Purpose: This study examines the main obstacles Sri Lankan businesses must overcome to adopt and use ESG reporting systems. In Sri Lanka, ESG reporting offers opportunities and difficulties for companies looking to align their operations with global sustainability standards in a rising economy with different industrial sectors. It also looks at how different stakeholders like investors, governmental organizations, and civil society have shaped the landscape of ESG reporting.

Methodology: This study follows the qualitative methodology and uses a content analysis technique. It explores Sri Lanka's distinct socioeconomic environment, considering legal frameworks, cultural quirks, and the accessibility of trustworthy secondary data from listed companies in Sri Lanka.

Findings: The Finding of this research is to start a conversation on the importance of ESG reporting for promoting sustainable development in Sri Lanka among decision-makers, corporate executives, and other interested parties. Utilizing knowledge from academic studies, industry professionals, and real-world case studies, this research provides doable solutions for Sri Lanka's ESG reporting issues.

Implications: Sri Lankan businesses can seize new development prospects and help achieve global sustainability goals by taking on the issues head-on and adopting best practices. To improve transparency and sustainability performance, it emphasizes the significance of capacity building, stakeholder engagement, and peer collaboration among industry participants.

Originality: This is the pioneer study in the ESG research fraternity to address developing country perspectives.

Keyword: Environmental, Social, and Governance, ESG, Sustainable Corporate Disclosure, Sustainability

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The Impact of Using Mobile Commerce and Mobile Applications – A Modern Lifestyle

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ABSTRACT

Purpose: Smartphones have become ubiquitous in today's society and have had a significant influence on the way we interact with each other, particularly in the context of business transactions. The evolution of mobile communication technology, including wireless internet, mobile phone players, and GPS navigation systems, has been ongoing and is continually updated to meet consumers' changing needs and preferences. The major driver of increased usage of mobile commerce and mobile applications is their functionality, which is particularly useful for businesspeople and university students in their daily lives. As such, the research aims to examine the dependence of students on mobile commerce and applications and how it affects their purchasing behavior.

Design/Methodology/Approach: This study used a modified quantitative research methodology. Primary data was gathered from 284 students at the South Eastern University of Sri Lanka and Eastern University via an online questionnaire.

Findings: According to the research's findings, social needs, social influences, and convenience of mobile commerce and mobile applications affect the purchasing behavior of undergraduates. Social needs are predicted by several critical criteria, including social influences and the convenience of mobile commerce and mobile applications. The findings of the study also showed a substantial, positive correlation between the characteristics.

Practical Implications: Mobile commerce and applications enhance the worth of brands to create targeted marketing campaigns for specific times and customers.

Research Limitations: The study responses were gathered from the undergraduates in South Eastern University of Sri Lanka who use mobile commerce and mobile applications daily.

Originality/value: Finding of the study provides valuable insights into mobile commerce and mobile applications and their adoption and usage, which could benefit undergraduates, consumers, and businesspeople.

Keywords: Mobile Commerce, Mobile Applications, Social Influences, Social needs

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ERP Implementation Challenges in the Private Sector Higher Education in Sri Lanka

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ABSTRACT

Purpose: The purpose of the study is to identify the factors that challenge in the adoption of ERP in the private higher education industry in Sri Lanka.

Design/methodology/approach: The data collected using a structured questionnaire from 393 professionals working in finance, human resources, marketing and academic administration division of various private sectors. Snowball sampling techniques was used to reach sampling target. Multiple regression analysis was used to study the impact of selected factors on the intention to adopt ERP in the institutes.

Findings: The findings of the study reveal that the awareness of ERP systems and attitude towards post implementations change management have significant positive impact on the adoption of ERP system while the need for customization and cost consideration were negative but not significant. This implies that better the awareness of ERP systems and positive attitudes towards the post implementation change management play prominent roles in private sector higher education institutes when adopting ERP systems.

Practical implications: Despite the challenges, adoption of ERP in the private sector higher educations in Sri Lanka gaining popularity, and it is expected that with increased awareness of systems and positive attitudes of the organizations in the private sector higher education can better adopt the technology. Hence, making awareness on the ERP systems and generating a positive attitude towards the post implementation change management are compulsory.

Originality value: There is few research on ERP in the context of Sri Lanka and the education industry has a great potential adopting the [1]technology. Hence, the paper contributes to the limited literature on the ERP implementation challenges in Sri Lanka.

Keywords: ERP, Technology adoption, Higher Education, Sri Lanka

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Impact of Security on Mobile Wallet Adoption Among the Customers of Private Commercial Banks in Ampara District

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ABSTRACT

Purpose: This study aims to examine how security affects the use of mobile wallets among Ampara district clients of private commercial banks.

Design/methodology/approach: In Ampara District, data were gathered from 483 users of mobile wallets. Using Smart PLS 3, structural equation modeling was utilized to examine the structural relationship between the research variables.

Findings: The findings showed that security was a positively significant factor influencing the adoption of mobile wallets, indicating that the adoption of M-Wallets will increase as their security is strengthened.

Practical implications: The study's findings can be applied to improve M-Wallets' security and place them among the right kind of customers, which would increase the number of mobile wallet users in the banking sector.

Research limitations: The limitation is that the population is chosen from among clients of private commercial banks. In Sri Lanka, both state-run banks and private banks are in operation. Lack of population frame availability, which causes the sampling to be non-probability sampling. The researcher would have chosen a more representative sample if the list of Internet users had been provided.

Originality Value: The study will push financial organizations and bank policy makers to strengthen the security of their mobile wallets. The study would make a significant contribution to the body of knowledge already available on security and the use of mobile wallets. The government of Sri Lanka can also benefit from this study as it looks to use technology to expand the financial services industry and improve client security. Since the study makes recommendations for enhancing mobile wallet security, academics believe it can contribute significantly to the corpus of current knowledge.

Keywords: Mobile Wallet, Security, Behavioral Intention and Adoption.

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Cognitive Bias in Investment Performance. Moderating Role of Financial Technology (FinTech): Evidence from Individual Investors in Colombo Stock Exchange of Sri Lanka

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ABSTRACT

Purpose: This research aims to explore the effects of cognitive bias on investment performance of individual investors by examine the moderating role of Financial Technology (FinTech) and examine how FinTech can potentially mitigate or impact these biases.

Design/Methodology/approach: Using a quantitative based study, the survey conducted among 450 individual investors of Colombo Stock Exchange (CSE) to gain an understanding of the mechanisms underlying cognitive bias and the implications of FinTech. The data was analyzed using Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM).

Finding: The finding of the research suggests that the cognitive bias has significant relationship with investment performance of individual investors in the Sri Lankan context, and the FinTech adoption moderates this relationship. Moreover, cognitive biases influence investment decisions and the potential for FinTech to enhance decision accuracy and investment performance in stock market.

Practical Implications: The effect of cognitive bias on investment performance can guide the development of strategies to minimize its adverse effects. Moreover, understanding the moderating role of FinTech adoption provides valuable insights for individual investors and stock market brokers to leverage technology to improve decision-making processes.

Limitations of the Research: This research acknowledges limitations of using convenance sample biases, quantitative based survey method for data collection and the nature of FinTech adoption in Sri Lanka. Generalizability of the research finding to other country and industries may be limited.

Originality Value: The findings of the research contribute to the existing literature in behavioral finance and financial technology by exploring the intersection of cognitive bias and financial technology (FinTech) within the context of Sri Lanka.

Keywords: Cognitive Bias, Investment Performance, FinTech, Individual Investors, Stock Market[2].

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Customer Orientation of Retailors' Employees and Its Impact on Customer Retention in Retailing Industry in the Eastern Province of Sri Lanka

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ABSTRACT

Purpose: This study examines customer orientation of employees in the retailing industry in the Eastern province of Sri Lanka. Further, the study investigates the influences caused by the employees' customer orientation and customer retention in the retailing industry in the Eastern province of Sri Lanka.

Methodology: The methodology was quantitative in nature. Questionnaire was used as data collection instrument and was collected from 437 customers in the retailing industries in the region. Data were collected in three districts such as Ampara, Batticaloa and Trincomalee. SmartPLS was used to analyzed the data and three hypotheses were tested in this study.

Findings: Findings suggest that customer orientation for the employees is economically important as stated in the literature. This is due to the fact that employees with customer orientation serves to customers more and that is also one of the reasons for the customer satisfaction in the retail industry. It was also found that customer satisfaction is mediating between customer orientation of retailing employees and retention of customers at the retail stores. Further, the findings also suggest that employees need to be given training or development programmes in order to improve technical and social skills and motivation and decision-making authority with regard to retailing customers.

Implications: This study helps retail marketers in the industry and hence, it has managerial implications. This study is very significant to the retailing industry by getting insights into how customer orientation of employees contributes to the customer retention to the brand of retail store and how that be a source of customer satisfaction and its impact on the customer retention.

Theoretical Contribution: This study also supports various studies in existing literature. In addition, this study also theoretically contributes by revealing findings in relation to the retailing in the context of Sri Lanka.

Originality: It is very rare to find a study in this nature in the context of Sri Lankan retailing industry. Hence, this study can further be expanded to the whole country and new findings may likely be emerged.

Keywords: retailing, eastern province, employee's customer orientation, customer satisfaction, customer retention.

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Corporate Social Responsibility and Organizational Citizenship Behavior: Case of Sri Lankan Tourism Industry

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ABSTRACT

Purpose: Universally tourism has been considered positively for its economic impacts. Conversely, much evidence has proved that tourism has many negative socio-cultural, and environmental impacts. Therefore, considering the importance of sustainability of tourism, Corporate Social Responsibility (CSR) has been introduced in the tourism sector. The concept of CSR has been considered as the essential part of the strategies of tourism companies. Moreover, a number of studies emphasized the importance of organizational citizenship behavior (OCB) for the success of the hospitality industry. The objective is to investigate the effect of employees' perception of CSR on OCB.

Methodology: A sample size of 500 employees in the tourism industry in the eastern province of Sri Lanka participated in this study. A self-administered questionnaire was used to collect the data. The OCB scale measuring two dimensions of OCB (OCBO and OCBI) developed by Williams and Anderson (1991) was used to measure OCB. Maignan and Ferrell (2000) questionnaire was used to measure perceived CSR of employees. Pearson correlation coefficient was used to test the relationship among variables.

Findings: Findings revealed that Corporate Social Responsibility significantly relates to Organizational Citizenship behavior. Most tourism firms located in the eastern region of Sri Lanka, small and medium enterprises (SMEs), do not have appropriate knowledge and skills about CSR and the budget to invest in long-term planning.

Implications: Findings emphasized the importance of CSR in the hotel industry to increase OCB, which will improve its overall performance. The concept of CSR should be considered as an essential part of the strategies of tourism companies. Awareness among employee perception about their organization in considering the negative impact of their activities with CSR which may exceed their formal job requirements.

Theoretical Contribution: This is the additional contribution to Social identity theory from Sri Lankan context.

Originality: This is a new contribution among hotel industry in the Sri Lankan context in the relevant scope.

Keywords: Corporate Social Responsibility, OCB, Sri Lanka, survey

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Digital Transformation and Sustainable Development in Post-Pandemic Sri Lankan Higher Education

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ABSTRACT

Purpose: This study examines the alignment of digital transformation with sustainable development in higher education, focusing on post-pandemic Sri Lanka.

Methodology: Using mixed methods, quantitative analysis is combined with qualitative methods to scrutinize the impact of digitalization on the Sustainable Development Goals (SDGs) in higher education. A quantitative survey method gathers data from a stratified random sample of 300 university students and 40 faculty members across various disciplines in Sri Lanka.

Findings: The study examines perceptions and experiences of the role of digital technologies in the achievement of the Sustainable Development Goals in higher education. Preliminary research has shown significant relationships between digital literacy, access to technology, and perceptions of sustainable development initiatives among students and teachers. The students with higher digital literacy demonstrate a correlation coefficient of 0.75 ($p < 0.01$) with sustainability engagement, while faculty with improved technology access display a correlation coefficient of 0.68 ($p < 0.05$) with positive attitudes towards sustainability integration in teaching. Notable challenges that hinder the integration of digital tools for sustainable development include inadequate infrastructure (reported by 80% of institutions) and limited teacher training opportunities (with only 30% accessible).

Implications: The study highlights the importance of using digital transformation strategies to achieve sustainable development programs in higher education. The practical implications are targeted interventions to improve digital strategy, promote digital literacy, and foster a culture of sustainability among students.

Theoretical Contribution: This study contributes to an empirical perspective for the growing literature on digital transformation and sustainable development, particularly in the post-pandemic context of higher education in Sri Lanka.

Originality: It offers a new perspective on the potential of digital technologies to promote sustainable development in developing countries like Sri Lanka.

Keywords: digital transformation, sustainable development, higher education, post-pandemic, Sri Lanka

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Assessment of Quality Assurance Mechanisms in Sri Lankan Universities: Towards Ensuring Educational Excellence and Global Competitiveness

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ABSTRACT

Purpose: This study examines quality management strategies in Sri Lankan universities, with the primary objective of enhancing academic excellence and enhancing global competitiveness.

Methodology: Mixed methods were used, combining quantitative surveys and qualitative interviews to gather insights from various stakeholders, including academics, administrators, and non-academic staff, students, and policy makers in across Sri Lankan state universities. Data were collected through an online questionnaire survey, yielding a sample size of 350 individuals.

Findings: The survey showed 85% of faculty members are satisfied with clear policy, but there's a gap in student-centered services, with only 40% feeling well supported. Concerns about evaluation practices and delayed responses were also raised. A positive correlation ($r = 0.70$, $p < 0.05$) was found between policy clarity and perceived effectiveness of assessment practices ($r = 0.15$, $p > 0.05$).

Implications: The importance is in identifying and responding to the unique problems with student assistance, assessment procedures, and clear policy in order to guarantee a thorough improvement of overall quality control. It highlights the need for interventions to be executed precisely in order to support the institution's quality assurance system.

Theoretical Contribution: This research contributes valuable insights into the dynamics of quality assurance mechanisms within Sri Lankan state universities, shedding light on the intricate relationship between policy clarity, student support services, and assessment practices.

Originality: The study provides initial support by providing empirical evidence and concrete recommendations to address the identified gaps in quality assurance, thereby increasing the quality of education and raising Sri Lankan universities to global standards encounter. This study is important for policy makers and institutions seeking to ensure educational quality and international recognition.

Keywords: Sri Lanka, quality assurance, universities, educational excellence, global competitiveness

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A Study of Goleman's Leadership styles in Kamba Ramayana

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ABSTRACT

Purpose: In this paper, different leadership styles in Kamba Ramayana are studied. Six leadership styles of Daniel Goleman are considered for the study and compared in relation with Kamba Ramayana through its characters. This paper dwells deep into Kamba Ramayana to extract valuable insights of various leadership styles and their relevance to the modern world. This paper also explores the relevant characters in Kamba Ramayana and their leadership styles based on their characteristics and situations.

Methodology: Research papers and books were studied to understand the different management aspects and leadership styles in Ramayana. This research used hermeneutics technique, a qualitative methodology that analyse the management concepts in the texts of Kamba Ramayana. This paper focusses on the six leadership styles of Daniel Goleman. Texts of Kamba Ramayana were analysed and the stanzas that are relevant to Goleman's leadership styles are considered for the study.

Findings: Teachings of Ramayana can be applied in the fields of management and leadership. The six leadership styles of Goleman: Coercive, Affiliative, Pacesetting, Visionary, Democratic and Coaching can be found in Kamba Ramayana.

Implications: These findings provide insights to various leadership styles and Management present in Kamba Ramayana.

Theoretical Contribution: This study attempts to link one of the ancient literatures, Kamba Ramayana and modern Leadership styles. While the application of the Leadership styles may be different, this study compares the fundamental values and beliefs of the characters in Ramayana and this relationship between the scripture and management can go deep in both fields which can generate interest to future studies.

Originality: This study of Goleman's leadership styles in Kamba Ramayana and the research design is an original contribution.

Keywords: Management, Ramayana, Kamba Ramayana, Leadership, Leadership styles

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Investigating Religiosity on foreign Product's Purchase Intention

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ABSTRACT

Purpose: This study aims to explain the impact of religiosity on the intention to purchase foreign products, incorporating the role of consumer ethics within the framework of the Theory of Planned Behavior (TPB). Within the realm of consumption, religiosity is posited as an additional factor within the TPB. In the domain of foreign products' consumption, the conceptualization suggests that religiosity precedes TPB components, subsequently influencing foreign products' purchase intentions.

Methodology: This study adopts a descriptive approach and employs a mixed-methods strategy. The research design involves conducting ten semi-structured, in-depth interviews alongside the distribution of 250 surveys among consumers in Eastern Province.

Findings: The primary outcomes indicate a negative impact of religiosity and consumption of foreign products' purchase intentions, aligning with the proposed hypotheses. Surprisingly, religiosity did exhibit a negative association with attitudes towards foreign products' consumption. It was identified as having a negative influence on attitudes, subjective norms, and perceived behavioral control. Notably, subjective norms emerged as the sole significant factor affecting foreign products' purchase intentions within the research context.

Implications: The findings provide insights to help marketers to formulate strategies to attract customers considering their religion.

Theoretical Contribution: The mixed-methods triangulation is a methodological advancement.

Originality: This paper enhances the Theory of Planned Behavior (TPB) by introducing religiosity as an element to its components. Additionally, it innovatively integrates the Theory of Planned Behavior with the Consumer's Ethics theory within the framework of foreign products' consumption. The study strives to focus on foreign products' purchase intentions, uniquely exploring the influence of individual religiosity on these distinct consumer behaviors.

Keywords: religiosity, purchase intention, foreign products

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Equity Market Volatility Behaviour of Emerging Countries with Japan – A Garch Approach

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ABSTRACT

Purpose: The primary objective of this paper is to examine equity market volatility behaviour of emerging countries: India, Sri Lanka, Brazil, China, Pakistan with developed country: Japan.

Methodology: GARCH and EGARCH model are opted in this study to analyse the impact of volatility spillover between developed country with selected emerging countries. Weekly data from 1st April 2012 to 31st March 2022 is considered in this study.

Findings: EGARCH analysis reveals bidirectional effects for Brazil, Sri Lanka and Pakistan stock market with Japanese stock market. GARCH analysis reveals uni -directional relationship exist between CSE⟶Nikkei 25, Bovespa ⟶Nikkei 25 and Nikkei 25⟶KSE. No relationship found between India and Japan stock market. EGARCH reveals coefficient to be positive for both the panel, i.e., Chinese and Brazil stock market shows positive shocks.

Implications: Thus, this study helps policy makers to maintain monetary stability in the county. Also helps investors for deciding in international portfolio management/hedging methods.

Keywords: Emerging economies, Japanese stock market, Volatility spillover, GARCH, EGARCH.

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The Effects of Job Rotation Practices and Intrinsic Motivation on Employee Performance: Mediating role of Job satisfaction in the Private Commercial Banks of Sri Lanka.

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ABSTRACT

Purpose: The purpose of this research is to examine the effects of job rotation and Intrinsic Motivation on employee performance through the mediating role of Job satisfaction in the private Commercial Banks of Sri Lanka

Design / methodology/ approach: The Questionnaires were administered to collect primary data from the 200 managerial and non-managerial level employees in the private commercial banking sectors in Eastern Province of Sri Lanka. Structural Equation modeling was used to analyze the structural relationship between research variables using Smart PLS-4.0.

Findings: The findings of this study revealed that the job rotation and intrinsic motivation have significant and positive relationship with employee performance and job satisfaction mediates the relationship among variables.

Research limitations: Data have been gathered from banks operating only in the Eastern Province of Sri Lanka. Thereby the findings of the study should not be generalized to the whole commercial bank operating throughout the country.

Practical Implication: The findings of the study provide a clear guidance to the banking practitioners / policy makers to take further steps in achieving the organizational goal through the employee performance.

Originality / value: The study contributes to the current literature by linking job rotation and intrinsic motivation to employee performance through job satisfaction in private banking sectors of Sri Lanka

Keywords – Job Rotation, Intrinsic Motivation, job satisfaction Employee Performance.

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Consumer Preference on Tea Packaging: A Study at Walallawita Divisional Secretariat division in Kalutara District, Sri Lanka

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ABSTRACT

Purpose: Tea is one of the most popular beverages consumed in Sri Lanka. As packaging influences consumers purchasing behaviour, this study examines the packaging characteristics of tea on consumers purchasing behaviour to use in future packaging needs.

Methodology: The study was mainly based on primary data from a sample survey of 100 consumers using a structured questionnaire in six GN divisions in the Walallawita Divisional Secretariat division, Kalutara district. A 5-point Likert scale starting at 1 of most preference was used to identify the consumer preferences of tea packaging.

Findings: The most preferred tea brand was Laojee tea at 21% and Watawala was at 19%. Likert scale means that packaging label, followed by packaging type are considered more by consumers. Among the packaging types, tea packets preferred for their availability and cost while tea bag showed the eco-friendly and convenient characteristics. 67% of the studied sample preferred plastic packaging material and 20 % preferred composite material. Plastic packaging material preferred due to its convenient features, availability, and cost. Metal is preferred due to its availability and cloth preferred for being eco-friendly while glass preferred for its convenient features. A cup of tea as a symbol on a tea package preferred over the others. Consumers highly considered the expiry date, followed by the manufacturing date.

Implications: The findings suggest the most preferred characteristics of tea packaging to be considered.

Research limitations: The samples are confined to a specific geographic location in Sri Lanka.
Originality/value: It recognizes consumers' awareness of tea packaging characteristics.

Keywords: Tea packaging, consumers, behavior, Kalutara.

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Information Communication Technology in Women Empowerment and Achieving Sustainable Development Goals

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ABSTRACT

Purpose: This study aims to assess the ways women are empowered through Information and Communication Technology (ICT) and fostering the process of achieving the Sustainable Development Goals (SDGs) in Developing countries.

Methodology: The World Bank's World Development Indicators (WDI) are used in this study as control variables and ICT indicators. The panel data from 30 developing nations is analyzed in the study between 2000 and 2022. An ICT index is created by the study using a number of ICT indicators. Qualitative content analysis and surveys were combined in a mixed-methods design. Macroeconomic data from 2000 to 2022 was examined using ARDL modeling and the GMM technique.

Findings: Over the past few decades, ICT has been crucial to women's empowerment, and it is a unique factor to take into account when setting the SDGs. The results of this study indicate that women's empowerment is positively impacted by ICT, suggesting that increased access to and usage of ICT can increase the percentage of women in the labor force.

Implications: The results provide direction to help them reach self-actualization, boost productivity, and encourage the use of ICT to help achieve SDGs 2030.

Theoretical Contribution: The weighted average method was employed in the study to create a composite index from the ICT indicators. In order to prevent the issue of omitted variable bias, we also employ various control variables. The triangulation using mixed methods is a methodological advance.

Originality: Examining the impact of ICT on women's empowerment with a particular focus on Goal 5 (Gender Equality and Empower all Women and Girls) and Target 5b improving the use of technology to empower women the study adds to the body of existing literature. Both the research design and the survey instrument are novel contributions.

Keywords: ICT, Women Empowerment, SDGs, GMM & ARDL. JEL Classification: J21, I25, Q01

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Foreign Direct Investment Status of India (FDI)

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ABSTRACT

Purpose: This study aimed to analyze and evaluate the current state of foreign direct investment in India. This includes examining trends, patterns, and factors influencing FDI inflows and outflows, as well as assessing the impact of FDI on the Indian economy. The research aims to provide insights into the opportunities and challenges associated with FDI in India, and to inform policymakers, investors, and other stakeholders about strategies for attracting and managing foreign investment effectively.

Methodology: Our study extensively depends upon time-series data for the purpose of analysis. Generally, a time-series is a sequence of values of variable over some period of time. Time series data is more challenging to analyse than cross-sectional data in the fact that economic observations can rarely, if ever, be assumed to be independent across time. Second, economic time-series satisfies the intuitive requirements for being outcomes of random variables. This current section aims to specify the research techniques in order to achieve our research objectives.

Finding: International FDI inflows increased by 55.5% annually in 1999, 47.6% annually in 2006, and 43.5% annually in 2015. This rise in FDI is a result of more international mergers and acquisitions (M&as), particularly among industrialised nations. In many developing and transitioning economies, it also indicates a stronger increase in economic performance. Additionally, it is evident that FDI growth in transition economies increased in 2008 as a result of developed countries were the epicentre of financial crisis, FDI inflows declined substantially in these economies, move towards the developing and transition economies, achieved a new record.

Practical Implication: Analysis of FDI outflows shows that they have also grown over time. Transition economies see the largest CAGR of FDI outflows throughout the period in developed, developing, and transition economies. The proportion of developed economies decreased over the years, yet they still account for a sizable portion of FDI outflows. India is regarded as one of the

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favoured destinations for FDI inflows, yet India is trailing China. India does not appear among the top twenty home economies in terms of outward FDI.

Theoretical contribution: By examining factors such as government policies, market conditions, economic reforms, and institutional frameworks, such research can shed light on how FDI flows into and within India, its sectoral distribution, and its implications for economic growth, employment, technological innovation, and competitiveness. Furthermore, by comparing India's FDI trends with those of other countries or regions, researchers can identify unique challenges and opportunities facing India and contribute to the development of theoretical frameworks for analyzing FDI in emerging markets.

Originality: Lastly, for maintaining India's long run economic growth path, there is call for 'Make in India' as manufacturing hub for which FDI is an engine of economic growth as supplement to domestic capital formation. The policy implications can be drawn from the study for increasing the pace of economic growth and to improve the health of all the sectors of India.

Keywords: Globalisation, Capital Formation, Economic Performance, Foreign Direct Investment, Transition Economies.

Awareness of Goal Setting and Planning Among Madurai District's XI and XII Standard Students

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ABSTRACT

Purpose: In students" life goal setting and planning very essential. Without these two ideas, the students not able to achievement anything in their life. If student have no idea about to goal setting and planning the teacher plays an important role to set goal and planning. If we fix the place we must go, then we can plan the things we do. So, for the school students fixing the place where he wants to go is very important.

Methodology: A sample of 150 XI and XIIS Standard Studying School kids from Tamilnadu's Madurai district, both rural and urban, participated in the study. In the research investigation, the approach of random sampling has been utilised. In this investigation, the researcher used the survey approach. Using this strategy, data is gathered to test the null hypothesis on the existing level of awareness in goal setting and planning among students in grades XI and XII Standard Studying School.

Findings: There is no discernible difference between boys and girls when it comes to goal setting and planning awareness. However, based on a mean value comparison, boys exhibit greater awareness regarding goal setting and planning. Regarding Locality, there is a notable distinction between pupils in XI and XII Standard Studying Schools in Rural and Urban areas. Compared to pupils in cities, rural students are more conscious of goal setting and planning.

Originality: Students in the Science Group and Arts Group do not significantly differ from each other when it comes to goal setting and preparation. The community of students will benefit if we arrange an awareness programme on goal setting and planning. For the benefit of students in grades XI and XII Standard Studying Schools, the Tamilnadu government has now launched the —Nan Muthalvanǁ project. The pupils will learn more if they adhere to that programme.

Key words: Awareness, Goal Setting and Planning, XI and XII School, Students.

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Exploring Innovations for a Greener Planet through Applied Sciences

Study on Semi-Analytical Solutions of Fractional Derivatives with Applications

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ABSTRACT

Differential equations are very useful tools to formulate real-world phenomena into mathematical form. In recent years, fractional calculus has gained considerable attention in modeling diverse real-world phenomena in science and engineering fields due to its memory effects and hereditary properties.

Purpose: In this study, we aim to review the ideas of fractional derivatives and their applications in fluid dynamics studies.

Methodology: The Adomian's Decomposition Method (ADM) has used to semi-analytically solve the Riemann-Liouville non-linear fractional-order differential equations.

Findings: The ADM has the iteration steps that lead to highly accurate results. The study can also be used for numerous model examples of fractional derivatives with initial and boundary conditions involved.

Practical Implications: Among the many interesting applications of fractional derivatives are complex viscoelastic media, electrical spectroscopy, porous media, cosmology, environmental science, medicine (the modeling of infectious diseases), and signal and image processing.

Research Limitations: When we consider the negative side of fractional-based models, they are computationally expensive, require enormous data storage requirements, and have a phenomenological description that does not necessarily reflect the physical mechanism behind the scenes.

Originality: The reviews and research designs are original contributions.

Keywords: Adomian's Decomposition Method (ADM), Fractional derivatives, Semi-analytical solution techniques.

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A Study on Antimicrobial Activities of Honey on *Staphylococcus aureus*

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ABSTRACT

Purpose: This review explores the versatile remedial actions of honey against Staphylococcus aureus, emphasizing its antimicrobial properties and potential as a natural remedy for antibiotic-resistant bacteria.

Design/Methodology/Approach: This study uses a broad approach by conducting a thorough review and synthesis from 55 existing literature, scientific studies, and research articles. It focuses on honey composition, antimicrobial mechanisms, efficacy against Staphylococcus aureus and explores the characteristics of infections and antibiotic resistance challenges.

Findings: Honey, which contains natural substances such as sugars, enzymes, polyphenols, and peptides, exhibits significant antimicrobial properties. Its antimicrobial activity involves factors such as low water activity, acidity, hydrogen peroxide production and non-peroxide antibacterial activity. Manuka honey, rich in methylglyoxal, effectively inhibits the growth of Staphylococcus aureus, great standard antibiotics.

Practical Implications: This review shows the potential of honey as an alternative treatment for Staphylococcus aureus infections, addressing antibiotic resistance concerns. Its various mechanisms, including wound healing, position honey as an effective natural healing agent.

Research Limitations: The research mainly indicates the existing literature and studies, therefore limited by the scope and depth of available research on honey's antimicrobial activity against Staphylococcus aureus. Further observed studies are warranted to validate and expand upon these findings.

Originality/Value: This review combines and synthesizes information from varies sources, providing a comprehensive overview of honey's antimicrobial properties, particularly its efficacy against Staphylococcus aureus. It emphasizes the unique contribution of honey as a natural remedy with multifaceted antimicrobial actions, potentially offering an alternative approach in finding antibiotic resistance in bacterial infections.

Keywords: Honey, Antimicrobial activity, Staphylococcus aureus, Antibiotic resistance, Natural remedies

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Isolation and Identification of *Trichoderma* Species in The Soil Samples Collected from Urban Waste Dumping Sites, Matara District, Sri Lanka.

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ABSTRACT

Purpose: Urban waste dumping sites pose significant challenges to environmental health and sustainability. In this study, soil samples were collected from eight urban waste dumping sites in the Matara district, Sri Lanka, to investigate the presence and diversity of fungal species.

Methodology: Soil samples were collected from multiple sites and subjected to isolation and identification procedures. Fungal species were isolated using Potato Dextrose Agar medium and characterised based on morphological and molecular analyses.

Findings: Microscopic and macroscopic features, including colony morphology, conidial structures, and growth patterns, revealed the presence of different *Trichoderma* species in the soil samples. Molecular identification was performed by PCR amplification of the internal transcribed spacer (ITS) region of the rDNA gene. The obtained DNA sequences were compared to existing databases for species confirmation. Preliminary results indicated two *Trichoderma* species, namely *Trichoderma lixii* (PP086873) and *Trichoderma harzianum* (PP092041), present in the urban waste dumping sites, suggesting the adaptability of these fungi to challenging environmental conditions.

Practical Implications: The findings of this study contribute to the understanding of fungal diversity in urban waste environments and may have implications for future applications in waste management and biocontrol strategies.

Research Limitations: It is essential to acknowledge and address potential limitations to ensure the reliability and validity of the application of the findings beyond the specific location and environmental conditions.

Originality: This is comprehensive research on fungal diversity in urban waste environments, and finding will serve as a foundation for devising strategies to augment the waste degradation capabilities of these fungi.

Keywords: isolation, identification, Trichoderma species, urban waste dumping sites

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Assessment of Satisfaction of Out-Patients on Digital Health Services at Base Hospital, Sammanthurai

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ABSTRACT

Purpose: Sri Lanka has implemented hospital health information management system (HHIMS) in selected hospitals according to digital health architecture blueprint. There is little knowledge available on satisfaction level of end users. This study was aimed to fill this gap by assessing the satisfaction of out-patients on digital health services at BH Sammanthurai.

Methodology: This cross-sectional study was conducted among randomly selected 300 out-patients from September to October 2023. Data was collected by an interviewer-administered questionnaire to measure the level of satisfaction. Data analysis was done with SPSS 22.

Findings: Most of the respondents were male (57.5%) and half of patients had secondary education. Most of them (76%) had smart phones. All of them were given an e-health card. But Majority (60%) did not aware the purpose of it. A significant number (48%) wanted to book their appointments in advance. All the respondents preferred mobile phone service alerts. Ninety percent of patients had e-prescription and medicines without any errors. Most of them (70%) were satisfied with the less waiting time for investigation and dental services.

Implication: Overall, the out-patient satisfaction score found to be high. Statistically a significant relationship was found in education level and number of hospital visits versus satisfaction. Identifying the bottlenecks and gaps in the post-implementation of HHIMS is critical to sustain the project.

Originality value: Study assessed client satisfaction in a low-resource setting and is crucial to improve the quality care and patient safety.

Limitations: The findings cannot be generalized to HHIMS providers since it was limited to only one secondary care hospital.

Keywords: Digital health, Hospital health information management system, Patient satisfaction

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Special Directory Habits for Pubertal Women: A Study Based on Ikkirigollewa Muslim Village

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ABSTRACT

Purpose: The main objective of the present study is to emphasize the significance of special food consumption by pubescent to the Muslim community.

Methodology: The study was carried out in a group of 60 females aged between 10 to 14 years. The primary and secondary data obtained from the study are analyzed through quantitative and qualitative data analysis methods.

Finding: *Kurakkan flour puttu, Rice flour puttu, Ulzuthankazli, Country chicken egg, Brinjal juice, Brinjal milk curry, Beef curry, Country chicken curry, liver, and sesame oil* are given to the respective participants of the study. Being Muslim village, the study area serves largely non-vegetarian meals during the puberty. As per the present study, grinding cooking method is decreased and normal cooking method is increased among the Muslim community of Ikirigollewa village. During puberty most of the participants offer to take raw chicken eggs which lead to biotin deficiency. Eating habits of adolescents are determined by various socio-cultural factors.

Implication: The finding provides insights to help special food consumption by pubescent to the Muslim community to healthy conception and delivery.

Theoretical Contribution: The finding will lead to new changes and knowledge among Muslims regarding special diets followed during puberty.

Limitation: No research regarding this title and lack of cooperation of participant are the limitation of this study.

Originality: This study is significant because it hasn't been conducted by any researchers.

Keywords: Puberty, Adolescence, Special foods, nutrition

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The Role of Government Officials in Achieving Health Goals of the Sustainable Development Goals: A Study Focusing on the Koralaipattu Central (Valaichenai) Divisional Secretariat Area

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ABSTRACT

Purpose: This study was carried out with a view to identifying the role of Government officials towards achieving the health goals of those sustainable development goals focusing on the Koralaipattu Central (Valaichenai) Divisional Secretariat. Further, this studies the challenges the public officers are confronted with in the achievement of the health goals.

Methodology: This study combines qualitative and quantitative methodologies. Both primary and secondary data have been used in this study. This study utilizes primary data from 75 informant interviews, group discussions, and health standards observations. Content analysis carried out on interview data, whereas descriptive analysis is conducted on statistics and reports.

Findings: This study has identified the importance of the role of the government employees, in addition to the duty consciousness, efficiency, competency and policy implementation capabilities of those employees in the implementation of the health plans and policies expecting to achieve health goals among sustainable development goals. The study has also identified the influence of various impediments which remain a hurdle in the proper achievement of sustainable health goals. Lack of public support, lack of adequate training, lack of finance, lesser technical facilities, lack of trained and skilled officers and waste management issues are featured in the implementation of health goals within the research study area.

Implications: This study argues that overcoming these obstacles can improve state sector officers' role in sustainable health.

Description of Concept: To conduct this research, different concepts were used to obtain extensive descriptions.

Originality: This is seen as an important to study to help understand the role of government officials in achieving health goals in the sustainable development goals.

Keywords: Sustainable Development Goals, Health Goals, Government Officers, Health Officials, Health Issues

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Examine the Fecundity of the Stored Product Insect Pest *Callosobruchus* sp on Different Host Grains and Effective Control Methods Using Botanical Extracts

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ABSTRACT

Purpose: The purpose of the study was to assess the fecundity of *Callosobruchus* sp. and identify natural remedies for mitigating the pest menace in stored grains.

Approach: The experiment aimed to evaluate the efficacy of various natural insecticides against *Callosobruchus* sp. infestations on different types of stored grains, including cowpea, corn kernel, green gram, and chickpea. Factors influencing pest population, such as seed characteristics, were considered.

Findings: Cowpea and green gram grains exhibited a higher incidence of pest population, attributed to the unique characteristics of pulse seeds influencing egg-laying behavior. Botanical treatments significantly reduced pest populations compared to controls, with neem, garlic, and chili extracts at a 50% concentration emerging as the most effective. Neem extract showed a mortality range of 73% to 80%, chili extract exhibited a mortality rate of 62% to 74%, and garlic extract displayed mortality rates ranging from 68% to 71%.

Practical Implications: The study highlights the potential of natural biological insecticides, such as neem, garlic, and chili extracts, as sustainable remedies against pest populations in stored grains. This offers an alternative to chemical pesticides and underscores the feasibility of employing nature-based solutions in agriculture.

Research Limitations: While the study demonstrates promising results, it may have limitations in terms of generalizability due to factors such as specific environmental conditions and variations in pest behavior across different regions. Further research is warranted to validate these findings in diverse agricultural settings.

Originality: The study contributes to the exploration of natural solutions for agricultural challenges, emphasizing the significance of further research in this domain. It underscores the value of harnessing botanical extracts as effective insecticides, providing insights into sustainable pest management strategies for grain storage.

Keywords: Biological remedies, Grain storage, Natural insecticides, Pest management

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Prevalence of Nomophobia Among Medical Students in Sri Lanka and Its Relationship with Selected Socio Demographic Factors

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ABSTRACT

Purpose: Nomophobia stands for 'No mobile phone phobia' that is the fear of being out of mobile phone contact. When the person is an area of no network, has run out of balance or run out of battery, nomophobia kicks in making the person anxious, with eventually exerting adverse effects on concentration level of person. Purpose of this study is to assess prevalence and severity of nomophobia among the medical students in Sri Lanka and its relationship with selected socio demographic factors.

Methodology: A descriptive cross-sectional study was chosen to assess prevalence of nomophobia. Cluster sampling technique was used to enumerate 392 participants among all state medical faculties of Sri Lanka; based on a defined inclusion criterion. NMP-Q (Nomophobia Questionnaire) which includes 20 likert scaled questions rated from 1 (strongly disagree) to 7 (strongly agree) was used to assess nomophobia in a self-reporting manner. Gathered data was analyzed using chi-square test by SPSS software.

Findings: 98.7% of 3rd year medical students had nomophobia. Out of them, most had moderate level of nomophobia. Most medical students were residing at hostels; whom were having highest count of being severely nomophobic. (54.6% within severity); But there was no statistically significant association between residence during term time and severity of nomophobia or gender and severity of nomophobia.

Implications: Above factors highlight the need to increase awareness about nomophobia among medical students and to do appropriate interventions to increase the awareness.

Theoretical Contribution: A new survey incorporates relevant theories appropriate to the context.

Originality: There is no literature for evidence on studies done in a methodical manner to evaluate nomophobia among Sri Lankan university students

Keywords: Nomophobia, Medical Students, Socio demographic Factors, Sri Lanka, survey

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Study of Environmental Awareness and Environmental Behavior of Female B.Sc., Students

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ABSTRACT

Purpose: This study aimed to examines the effect of study environment, residence and status on female B.Sc. students about the environmental awareness of students and the relationship between their environmental awareness and ecological behavior

Methodology: The study was conducted on 100 female B.Sc., students whose medium of instruction is English or Malayalam and who live in urban and semi-urban rural areas of Thiruvananthapuram. Cito's Environmental Awareness Scale (1994) and Kaiser's General Ecological Behavior Scale (1998) were used as tools. Statistical treatment included one-way ANOVA and correlation.

Findings: The results show that Botany students from urban areas have higher environmental awareness than Chemistry students from semi-urbanized rural areas. The results also show that farming has no effect on environmental awareness. A positive correlation was found between environmental awareness and ecological behavior. The study recommends inclusion of environmental education as a subject in B.Sc., curriculum so that future teachers can instill environmental sensitivity in their students.

Implication: Study suggests that educating and increasing awareness about environmental issues can potentially lead to positive environmental behavior among this demographic group. Additionally, the findings may inform strategies for promoting sustainable practices and environmental conservation efforts within educational institutions and beyond.

Theoretical Contribution: Study Lies in its exploration of the relationship between environmental awareness and behavior specifically among female B.Sc. students. By focusing on this demographic group, the research provides insights into how environmental education and awareness initiatives may influence behavior, contributing to the broader understanding of environmental psychology and the factors that shape sustainable practices.

Originality: This study specifically focuses on female B.Sc. students and their environmental awareness and behavior. By narrowing the scope to this demographic group, the study offers unique insights into the intersection of

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gender, education, and environmental consciousness. This original approach allows for a deeper understanding of the factors influencing environmental attitudes and actions among young women pursuing science-related degrees, which may differ from those of the general population or other demographic groups.

Protein Secondary Structure Prediction using Protein Language Models Embedding and Deep Learning Architecture

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ABSTRACT

Purpose: Predicting the secondary structure (SS) of proteins from amino acid sequences is a challenging task in bioinformatics. This study aims to present a novel approach using unsupervised deep learning methods inspired by Natural Language Processing to enhance protein SS prediction. The primary goal is to achieve improved accuracy and computational efficiency compared to existing state-of-the-art predictors.

Design/Methodology/Approach: The proposed deep learning model employs an embedding from the ProtTrans (T5) language model as input features to a deep learning model to predict Q3 and Q8 SS. This approach addresses the limitations of current predictors by providing an efficient yet effective solution. Experimental evaluations encompass five benchmark test sets (TEST2016, TEST2018, CASP12, CASP13, and CASP14) to thoroughly assess the model's performance.

Findings: Results indicate a significant leap in accuracy (1.5 – 2.5%) over existing techniques for predicting protein SS. The embedding features extracted from the pretrained protein language model outperform profile features, demonstrating superior prediction accuracy and faster feature generation.

Practical Implications: The findings of this research bear practical significance for the field of bioinformatics. The proposed model offers a more efficient and accurate tool for predicting protein secondary structures, thereby contributing to advancements in structural biology.

Research Limitations: Further refinement and exploration may be needed to enhance the applicability of the proposed model.

Originality Value: This work introduces a unique contribution to protein SS prediction by leveraging unsupervised pretrained language models and deep learning methods. The utilization of ProtTrans embedding features demonstrates an innovative and effective alternative to traditional profile features.

Keywords: Protein Structure Prediction, Protein Secondary Structure, Deep Learning, Protein Language Models, Transfer Learning.

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Arabic and Islamic Education for Sustainability in the Digital Age

Objectives of Education in Islam: A Qur'anic Perspective

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ABSTRACT

Purpose: This study aims to examine the educational goals in Islam by focusing on the perspective provided by the Qur'an.

Design/Methodology: This study is distinctively designed to comprehend the distinctive Islamic perspective on education emanating from Quranic principles. This qualitative study, based on secondary data, such as the Qur'an, Books and research articles delineates some of the above specific Quranic goals as the focal point of investigation within the defined study area.

Findings: The primary finding of this research highlights that education guided by the Quran prioritizes a comprehensive approach to human life, integrating spiritual aspects and leading to a state of closeness to the divine.

Practical implications: The study underscores the crucial importance of understanding ideologies and systems through the sacred texts of Islam and Also, this study reveals that education, when imparted from a Quranic perspective, practically transforms man into a strong and balanced person.

Originality value: This Research is undertaken with the intention of contributing to future studies aimed at acquiring comprehensive insights into education framed by the language of the Qur'an. The goal is to contemplate the objectives of Islamic educational philosophy.

Keywords: Islam, Qur'an, Education, Europe

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Prominent Madhhab Imams' Perspective on Puberty and Mental Maturity in the Context of Marriage in Islam

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ABSTRACT

Purpose: This study is to explore the views of the Sunni imams of the Madhhab concerning puberty and mental maturity in the context of marriage.

Design/methodology/approach: A theoretically structured approach with primary and secondary sources, including Al-Qur'an, As-Sunnah, research articles, books, and web resources analyzed through literary methods.

Findings: There are diverse opinions among the Sunni imams regarding the age and maturity required for marriage, with consensus on the necessity of puberty and mental maturity. Age functions as a marker of an individual developmental stage while maturity is a multidimensional construct that includes cognitive, emotional, and social dimensions. Traditional and modern jurists present three main stances on marriage: permitting premature marriage, rejecting marriage before maturity, and allowing marriage for girls before maturity and puberty while it is prohibited for boys.

Practical implications: Grasping various interpretations of marriage maturity within different madhabs will assist in formulating Muslim personal laws in a Muslim minority context ensuring they are in line with Islamic principles and contemporary requirements. Educators and stakeholders will be able to integrate these findings into curricula and community dialogues.

Originality value: This study will contribute original insights to scholarly discourse on Islamic jurisprudence and also these interpretations will support crafting Muslim personal laws reformations on a minimum age of marriage.

 Keywords: Maturity, Puberty, Imams' opinions, Age of marriage

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The Role of Zakat in Poverty Eradication Among Minority Muslims: A Case Study of the Kinniya Divisional Secretariat of Trincomalee, Sri Lanka

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ABSTRACT

Purpose: This study elucidates the purpose, significance, and historical contributions of zakat to poverty alleviation. Furthermore, it assesses the perceived impact of zakat on poverty alleviation in the Kinniya Divisional Secretariat. The study also addresses the challenges associated with the implementation of zakat and provides recommendations for its development.

Methodology: The study utilizes a descriptive analytical approach, incorporating qualitative methods for the collection of both primary and secondary data. Primary data is collected through interviews and focused group discussions conducted by the researcher, while secondary data is sourced from mosques, religious institutions, magazines, journals, and other relevant materials.

Findings: The study highlights the substantial impact of Zakat implementation on poverty eradication and advocates for the continued integration of social programs informed by these principles. A comprehensive approach integrating Zakat-based initiatives with wider social programs holds promise in addressing poverty among Sri Lankan Muslims.

Implication: This regionally focused study on Zakat will serve as a foundation for the regional expansion of its practice and foster increased awareness among the people. Moreover, it is poised to play a crucial role in addressing various indicators of poverty alleviation in the future.

Theoretical Contribution: This research offers a profound insight into the concept of Zakat as outlined in Islam, providing the knowledge needed to comprehend its contemporary application and its potential role in poverty alleviation.

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Originality: Fundamental concepts associated with Zakat are drawn from the Qur'anic Sunnah, while practical information is derived from primary data, presented in a comprehensive research format.

Keywords: Zakat, poverty alleviation, Sri Lankan Muslims, social programs, eradication

Contemporary Economic Crises and Their Solutions with the Guidance of the Holy Qur'an: Analytical Descriptive Study

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ABSTRACT

Purpose: The purpose of this study is to elucidate the definition, purpose, importance, sources, and contemporary application of Zakat in the context of Islamic economy. Additionally, the study aims to identify economic principles and practices outlined in Holy Qur'an as a means to alleviate economic crises.

Methodology: In this study, the researcher has utilized secondary data sources to expound on social descriptive research. The investigation is grounded in the Holy Quran, along with other Islamic secondary sources, magazines, and research articles.

Findings: The economic principles outlined by Allah, grounded in human welfare, resonate strongly with the concept of sustainable economic development. The Quran, as the primary source of Islam, provides guidance on how individuals should navigate economic crises and contribute to rebuilding. This Quranic guidance not only helps steer us away from economic disorder but also provides insights on preventing such turmoil.

Implications: This study elucidates the Qur'an's directives on reconstructing a faltering economy. It emphasizes the potential to shield society from economic crises by steering clear of the factors that contribute to economic deterioration. The study underscores how the Qur'an offers comprehensive guidance in this regard, asserting that the implementation of sound economic policies is the most effective means to safeguard against crises.

Theoretical Contribution: The contributions of this study lie in achieving a comprehensive understanding of Islamic economics, fortifying the economic principles outlined in the Holy Qur'an, and presenting guidelines to safeguard humanity from economic decline.

Originality: This study directly proposes solutions to economic crises guided by the Quran, which is the primary foundation of Islam. Additionally, secondary sources such as journals, surveys, and electronic media are employed to exchange study data and gather necessary information.

Keywords: Economy, Quran, Crisis, Interest, Debt

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The Role of Collective Zakat in Poverty Alleviation: Special Reference to Maruthamunai Zakat Fund

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ABSTRACT

Purpose: Poverty is one of the most pressing social issues in the present decade. This paper observes the trend of zakat collection and analyses the pattern of zakat distribution in Maruthamunai where Muslims are dominating ethnic group. Thus, this study aims to explore what role the Zakat Fund plays in alleviating poverty and to what extent its services contribute to poverty reduction.

Design/methodology/approach: Documentary analysis of the annual reports of the Zakat Fund (2023, 2022, 2021, 2020 and 2019) and unstructured interviews with the chairman, members of the Zakat Fund, and prominent individuals in the region, were employed. Data gathered were analysed using the coding method and presented in a descriptive manner with words, sentences, and quotations.

Findings: Although the Zakat Fund has made significant contributions to poverty eradication by providing scholarships for education, building houses, providing scarring assistance from loans, providing medical expenses, and providing sustainable living expenses, the results of this study indicate that most of its services do not provide a sustainable solution to the poverty, and which are based on self-employment investment and small and medium income generation.

Practical implications: Researchers suggest that long-term solutions to poverty alleviation can be established while these arrangements are extended. The researchers hope that both the recommendations on Zakat Funds in other regions and the study's findings with recommendations will be useful when the Zakat Fund formulates its policies.

Keywords: Poverty, Poverty Alleviation, Zakat Fund, Islamic philanthropy, Maruthamunai Zakat fund.

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Halal Tourism and Its Characteristics: A Literature Review

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ABSTRACT

Purpose: The aim of this study is to inform people about Halal tourism and to understand and clarify the characteristics of Halal tourism and its practices to motivate travelers towards Halal.

Methodology: This study has been carried out as a qualitative study by reviewing the previously written research papers on Halal tourism using secondary data such as research articles, essays, reports and analyzing their opinions.

Findings: As a result of this study, we can see that Halal tourism is a tourism designed according to the Islamic method in a way that fulfills the needs and obligations of the travelers with the criteria approved by Sharia. Its features include halal food, halal accommodation facilities Halal tourism, the qualities of brotherhood, unity, hospitality and saving are also fostered. This tour is suitable for Muslims and non-Muslims. Halal tourism can also be welcomed in countries like Sri Lanka where there is a Muslim minority.

Practical implications: Tourism is different from ordinary tourism. During Halal tourism, the needs of the travelers are arranged according to their preferences and arranged to fulfill the religious obligations properly, so the trend of travelers towards halal tourism is increasing. Due to this, travelers prefer Halal tourism more than normal tourism. Halal tourism is now welcomed Muslim countries and non-Muslims countries.

Originality values: Characteristics of Halal tourism to gain awareness about Halal tourism and to be interested in Halal tourism. This study will be helpful for those who are doing further research related to Halal tourism.

Keywords: Halal, Tourism, Halal Tourism, Islamic Tourism

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An Islamic Perspective on Abraham Maslow's Needs Theory in the Human Life Circle

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ABSTRACT

Purpose: The Needs Theory that was introduced by Abraham Maslow in 1943 is a significant one among the theories introduced. The study aims to look analyses into the Maslow's needs theory with Islamic perspective.

Design/methodology/approach: This study has been designed as library research with inductive reasoning and qualitative approach. Data have been collected from primary sources (Al-Quran and Sunnah) and secondary sources (logs, books, articles, journals, magazines). Based on content and descriptive approach, this article employed analytical, and critical explanations methods with a literary perspective.

Findings: The study reveals that Maslow's needs theory prefixes five needs namely physical needs, security needs, love needs, esteem needs and self-actualization needs. However, he tried to include in his needs theory further 3 needs namely aesthetics needs, information needs, and infinity needs due to not completed all human needs. In Islamic perspective, needs are mentioned as Dharuri'at (necessary needs), Hajiy'at (ordinary needs) and Tahseeni'at (additional needs).

Practical implications: Expecting others to obey me, identifying and expecting as high-level class among public, and infinity with greed are against Islamic shariah. Theories created by the human never be equal to the God's creation and those are defects thus, even though needs can be differing man to man, those to be restricted and comply with divine guidelines.

Keywords: Human needs, Abraham Maslow's Needs Theory, Dharuri'at, Hajiy'yat and Tahseeni'at

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Islamic Theory of International Relations: An Explorative Study of Applicability in the Sri Lankan Context

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ABSTRACT

Purpose: To develop an appropriate framework for IIR-Muslim non-Muslim relations based on Islamic principles, with the aim of fostering connections between Muslims and non-Muslims in Sri Lanka. This attempt includes conducting a model test of the framework.

Design/methodology/approach: A thorough review of pertinent literature was conducted to establish the framework for IIR in the study. Also, the study employed a questionnaire survey among 308 undergraduates at the state universities in Sri Lanka, as primary data collection technique. Additionally, the obtained data underwent descriptive analysis using SPSS, enabling the extraction of statistical measures.

Findings: In the developed framework, there are four main levels. The first is the elementary level (As-Silm), the second is the primary level (Ath-thaaruff, Qabool al-aakher, Thakreem al-insan, Al-Hivar), the third is the intermediate level (Ath-thaavun, Ath-thaayush, Al-vasathiyyah, Al-musavath), and the fourth is the advanced level (Al-adhl, Al-ihsan, Al-bir, Al-qisth). Each level encompasses four hierarchies. Level 01 includes only one aspect, while each of the other levels comprises four aspects as mentioned above. Further, the study samples exhibited a notable inclination towards relationships with non-Muslim peers. However, deviations from the aforementioned trend were observed in joint business ventures, financial borrowings, attendance at funerals and religious events, as well as consumption of non-Muslim items.

Practical implications: Incorporating these overlooked practices could enhance the depth and scope of the International Relations framework within the Sri Lankan context.

Originality value: The work makes a significant contribution to the sparse literature on the Islamic theory of international relations, likely being the pioneering study to implement a novel IIR framework among both Muslims and non-Muslims within the context of Sri Lanka.

Keywords: International relations, Muslims-non-Muslims, University Undergraduates, Sri Lanka

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The Contribution of Madrasah in the Educational Development of Muslims: Based on Kurunegala District

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ABSTRACT

Purpose: The main Purpose of this research is to determine the contribution of Madrasah in the educational development of Muslims in Kurunegala district.

Methodology: This research is descriptive research with historical approaches. The primary data were collected through interviews and questionnaires with principals, teachers and students working in madrasas in Kurunegala district and the secondary data were collected through the documents found in the madrasah and graduation tables.

Findings: Due to the special educational activities in Madrasah of Kurunegala district, many students from outside districts visit and study here. Also, many students who have studied in Madrasah like Al Madrasatul Noor Arabic College, Irfaniya Arabic College and Al Hadhiya Arabic College in Kurunegala district have gone on to university and some of those educated there are also serving as doctors and lawyers.

Research area: 15 madrasah out of 25 madrasahs in Kurunegala were studied in this research based on Kurunegala District. This analysis covers the period from 1961 to 2023 of Ilahia Arabic College for Girls in Kurunegala district.

Conclusion: This research highlights the contribution of madrasah in the educational development of Muslims in Kurunegala district. Madrassas can produce more religious scholars in the Islamic society by giving more importance to general education along with modern teaching methods.

Keywords: Kurunegala District, Muslims, Arabic Madrasah, Public Education, Religious Education

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The Contribution of Madrasah in the Educational Development of Muslim Women- A Historical study of Anuradhapura District.

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ABSTRACT

Purpose: The purpose of this research to determine the contribution of madrasas to the educational development of Muslim women. This research aims to identify the status of Muslim women's development in religious education and public education in Anuradhapura district, the causes of these developments, as well as the challenges they face and the solutions to them.

Methodology: It is a historical narrative study using primary and secondary sources.

Findings: Muslims have established their institutions to promote their social, cultural and educational development. One of the most important of these institutions is Madrash. The women's madrasas found in Anuradhapura district have created a more progressive situation than the one that existed at the beginning of the women's educational activities.

Keywords: Madrasah, Women Education, Anuradhapura District, Aalima,Haafila.

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Engineering Innovations towards a sustainable Future

Electricity Consumption Analysis of Ethernet Switches using IoT Sensors

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ABSTRACT

Purpose: The paper presents a methodology for the analysis of the power consumption of an ethernet switch using IoT devices in a simulated environment.

Design/methodology/approach: The power consumption of the Cisco Catalyst 2960X was investigated using the linear combination method, integrating variables such as the ports utilization, bandwidth allocations, and power consumption. The analysis employed JPerf software for simulations, with data recorded by the AEOTEC devices (Smart Switch 6, Z-Stick Dongle). The results from these variables were comprehensively evaluated through scatter plots, offering visual insights into relationships, and correlation analyses quantifying associations.

Findings: The research reveals the difference in power usage between the switch's idle and active phases. Higher bandwidth allowances result in increased power consumption, particularly during peak usage or data-intensive activities. The scatter plots suggest a relationship between the switches' number of active ports and its power usage. It illustrates that as the number of linked ports grows, so does the amount of power used.

Practical Implications: It improves resource allocation and can optimize power usage based on actual needs. These findings will be more significant in large-scale operations, such as Network Operation Centers (NOCs), data centers, and server farms.

Research Limitations: The IoT sensors utilized in our experiment were designed to operate solely on a 110V power supply. To adapt to our 230V power system, a VARIAC was employed. However, it is essential to acknowledge

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certain limitations. Power interruptions and network failures emerged as significant factors influencing the experiment.

Originality Value: This methodology seamlessly integrates IoT devices connectivity, emphasizing precision with the least count, and employing JPerf simulations.

Keywords: Ethernet Switches, Cisco Catalyst 2960X, IoT Sensors.

Smart Irrigation System

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ABSTRACT

Purpose: Supervisory control and Data Acquisition (SCADA) technique could be used in the large-scale irrigation systems. The large-scale irrigation system is important to the farmers, botanical gardens, and agricultural industries. Manual irrigation system requires a lot of labour work. If we automate the large-scale irrigation system, then we can reduce the maintenance cost of the cultivation systems and the botanical gardens.

Methodology: The SCADA system could be used to automate the large-scale irrigation system. The SCADA system has three main components, which are central control unit (CCU), remote terminal unit (RTU), and communication medium. The communication medium could be a Wired or Wireless LAN network. The communication medium connects the CCU and RTU. Ethernet, Profinet, and DCOM networks could be used in the communication medium. The communication medium uses Genesys protocol to exchange the messages between the CCU and the RTU. The communication medium connects the single CCU, and the multiple RTUs. The multiple RTUs could be connected with the single CCU. The Genesys protocol has five fields. The station address field in the Genesys protocol could be used to distinguish the multiple RTUs.

Findings: Pump, motors, and valves are the field devices in the SCADA based irrigation system. The Field devices are connected with the RTU actuators. The plant operator of the SCADA system uses the CCU to control the RTU. The RTU emulator could be developed to find the present states of the field devices in the RTU.

Implications: The SCADA system could be used to automate the existing, and traditional irrigation methods. Thus, the cost of the existing, and traditional irrigation methods could be reduced by the SCADA system.

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Theoretical Contribution: The SCADA system could be used in academic and industrial research.

Originality: The SCADA system could be used to replace the industrial automation systems, which use traditional IOT and wireless communication approaches.

Keywords: SCADA System, CCU, RTU, LAN, Wi-Fi, Genesys protocol, and RTU Emulator.

Smart Home System

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ABSTRACT

Purpose: Nowadays, the smart home systems are developed using internet of thing (IOT) approaches. The sensor nodes, central control unit, communication medium and the actuators are the four main sub-units of the IOT based systems. Wired or Wireless communication protocols could be used in the communication medium of the IOT based systems. Power consumption of the sensor nodes, interference, data security, mobility, and scalability are some key issues of the IOT based systems. Hence, the Supervisory Control and Data Acquisition (SCADA) technique could be used to design the smart home systems.

Methodology: The SCADA system has three main components, which are central control unit (CCU), remote terminal unit (RTU), and communication medium. The communication medium could be a Wired or Wireless LAN network. The communication medium connects the CCU and RTU. Ethernet, Profinet, and DCOM networks could be used in the communication medium. The communication medium uses Genesys protocol to exchange the messages between the CCU and the RTU. The communication medium may connect a single CCU, and the multiple RTUs. The Genesys protocol has five fields. The station address field in the Genesys protocol could be used to distinguish the multiple RTUs.

Findings: The field devices relate to the RTU actuators. Light, Fan, Water pump, Water Heater, Air conditioner, Television, Door control, and window control are the field devices of the smart home system**.** The house owner of the smart home system could use the CCU to control the RTU. The RTU emulator could be developed to find the present states of the field devices in the RTU.

Implications: The SCADA system could be used to automate the smart home applications. Thus, the maintenance cost of the smart home system could be reduced by the SCADA system.

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Theoretical Contribution: The SCADA system could be used in academic and industrial research.

Originality: The SCADA system could be used to replace the industrial automation systems, which use traditional IOT and wireless communication approaches.

Keywords: SCADA System, CCU, RTU, LAN, Wi-Fi, Genesys protocol, and RTU Emulator.

SCADA Based Grinding Mills

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ABSTRACT

Purpose: Supervisory control and Data Acquisition (SCADA) technique could be used in the large-scale grinding mill industries. We need to automate the large-scale grinding mill industries to increase the throughput, efficiency, and capacity of the grinding mill production line. If we automate the grinding mills industry, then we could reduce the operational cost of the grinding mill industries. The SCADA system could be used to automate the grinding mills in the industry.

Methodology: The SCADA system has three main components, which are central control unit (CCU), remote terminal unit (RTU), and communication medium. The communication medium could be a Wired or Wireless LAN network. The communication medium connects the CCU and RTU. Ethernet, Profinet, and DCOM networks could be used in the communication medium of the SCADA system. The communication medium uses Genesys protocol to exchange the messages between the CCU and the RTU. The communication medium connects the single CCU, and the multiple RTUs. The Genesys protocol has five fields. The station address field in the Genesys protocol could be used to distinguish the multiple RTUs.

Findings: The plant operator of the SCADA system uses the CCU to control the RTU. Pump, motors, and valves are the field devices in the SCADA based grinding mills. The field devices are connected with the RTU actuators. The RTU emulator could be developed to find the present states of the field devices in the RTU.

Implications: The SCADA system could be used to automate the existing, and traditional grinding mill industries. Thus, the maintenance cost of the existing, and traditional grinding mill industry could be reduced by the SCADA system.

Theoretical Contribution: The SCADA system could be used in academic and industrial research.

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Originality: The SCADA system could be used to replace the industrial automation systems, which use traditional IOT and wireless communication approaches.

Keywords: SCADA System, CCU, RTU, LAN, Wi-Fi, Genesys protocol, and RTU Emulator.

Vehicle Parking System

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ABSTRACT

Purpose: We need to establish a network to control and monitor the vehicle parking situations in the commercial environments. Also, we need to develop a system to find the vehicle parking area (vacant spaces), and calculate the parking duration of the vehicles.

Methodology: Universal Software Defined Radio Peripheral (USRP) device, Banana pi board, and OpenBTS application could be used to establish a mobile communication network. The USRP device act as the air interface between the mobile phones and the base station. The OpenBTS application is installed in the Banana Pi board and the USRP device is connected with the Banana Pi board via Gigabit ethernet cable. The OpenBTS application establishes GSM-1800 MHz network with the USRP device.

Findings: The network sends the information about the vacant spaces in the parking area. The text messages will be forwarded, when the vehicle enters to the network. The drivers could find the vacant spaces from the text messages, and drive the vehicles to the known vacant spaces without any further delays. Also, the parking bill is calculated based on the vehicle type, and the parking duration of the vehicle, and the bill amount is forwarded to the driver as text messages.

Implications: The vehicle parking system could be used in large shopping complexes, entertainment places, sports centers, large universities and auditoriums.

Theoretical Contribution: The OpenBTS, and USRP based vehicle parking system could be extended to 3G, 4G, and 5G networks.

Originality: The OpenBTS, and USRP based vehicle parking system could be used in the telecommunication industries.

Keywords: USRP device, GSM Network, Banana PI, OpenBTS, Asterisk, GNU Radio, Mobile phones.

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IoT-Based Air Quality Monitoring and Forecasting System

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ABSTRACT

Purpose: In response to the global concern over air pollution, this paper introduces an innovative real-time monitoring system with a unique dual capability: displaying current air quality and providing a seven-day forecast through the integration of IoT technology.

Methodology: Leveraging an IoT device, the system incorporates Arduino-based sensors transmitting real-time data, which are PM2.5, PM10, CO (ppm) via ESP8266 Wi-Fi to the ThingSpeak database. The collected data is systematically stored in a database, ensuring regular updates and facilitating seamless data access. The predictive aspect employs a hybrid model that integrates a one-dimensional Convolutional Neural Network (Conv1D/1D-CNN) and Long-Short Term Memory (LSTM) algorithm, showcasing the prowess of deep learning in air quality prediction and specifically forecasting the Air Quality Index (AQI).

Findings: With real-time AQI updates utilizing multivariate time series analysis, the model factors in correlations are found in both hourly and daily datasets, enhancing its predictive accuracy. Despite the initial limitation of a small dataset, the chosen hourly dataset, trained with Conv1D-LSTM, demonstrated higher accuracy (29.35%) and lower MSE (0.281) despite initial limitations, demonstrating exceptional performance in multivariate time series analysis.

Practical implication: The real-time AQI calculation results are realized through the ThingSpeak IoT channel, while the predictive results of AQI are accessible through a user-friendly mobile IoT application.

Original value: This application, integral to this research objectives, not only provides notifications but also empowers users to monitor daily air quality conditions, encapsulating the holistic approach of employing IoT, deep learning, multivariate time series analysis, and comprehensive Air Quality Index forecasting for effective air pollution management.

Keywords: Air Quality Index, IoT Application, Multivariate-Time-Series-Forecasting, Conv1D-LSTM, dataset correlation.

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Global Perspectives on Subject Gateways in Engineering and Technology Exploration

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ABSTRACT

Purpose: This study aims to enhance the understanding of subject gateways in engineering and technology exploration globally. It assesses their effectiveness, usage patterns, and challenges in providing access to relevant information.

Design/Methodology/Approach: Employing a mixed-methods approach, this research integrates a systematic literature review, analysis of usage statistics, and interviews/surveys with stakeholders like researchers, librarians, and IT professionals. It includes a global perspective by examining subject gateways across diverse regions.

Findings: Insights reveal the significant role of subject gateways in supporting research within engineering and technology. Analysis covers user preferences, the impact on research productivity, and the efficacy of various features. The study also identifies global trends in subject gateway usage.

Practical Implications: Results offer valuable implications for information professionals, educators, and researchers in engineering and technology. The insights can guide the development and improvement of subject gateways to better meet the community's information needs.

Research Limitations: The study acknowledges limitations due to data availability and potential variations in subject gateway implementation across regions. The dynamic nature of technology may also influence user preferences and behaviors.

Originality Value: By providing a global perspective on subject gateways, this research contributes unique insights into their usage and effectiveness in engineering and technology exploration. It combines diverse methods and geographical insights, offering a comprehensive analysis that can inform future information access tool developments.

Keywords: subject gateway, Institutional Repository, Engineering & Technology.

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Environmental Monitoring System

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ABSTRACT

Purpose: We need to establish a communication network to monitor the physical quantities in the environment. Also, we need to measure the physical quantities in the monitoring environment such as temperature, humidity, and the luminous efficacy values.

Methodology: Universal Software Defined Radio Peripheral (USRP) device, Open BTS application, GNU Radio, SQLite3 databae, Asterisk, Arduino Mega board, and Banana Pi board could be used to establish a simple GSM-1800 communication network. The communication network could be used to monitor the environment. A set of sensors could be used to monitor the physical quantities in the environment and the values of the sensors could be stored in the SD card device. The SD card device is attached with the sensor node. An Arduino Mega board could be used as the sensor node. The sensor node uses Inter Integrated Circuit (I2C) communication to transfer data from the the sensors to the SD card device.

Findings: The sensor nodes periodically measure the physical quantities in the environment and send the measured data to the storage device. The present state values of the sensor nodes are forwarded to the base station. The sensor node has four states such as active, Data-On, Data-Off, and idle. The present state value of the sensor node will be forwarded to the base station, periodically. The energy level ratio of the rechargeable battery is measured by the sensor nodes and the energy level ratio is forwarded to the USRP base station, periodically.

Implications: The network could be used to monitor the changes in the environment.

Theoretical Contribution: Also the network could be used to perform research works, such as monitoring the physical quantities in the environment, and controlling the environment.

Originality: The network could be used in the telecommunication industries.

Keywords: GNU Radio, Asterisk, GPIO Pins, Sensor Node, I_2C, SPI, SD card, and USRP.

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Development of Course Recommendation System with Udemy Dataset

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ABSTRACT

Purpose: This research project demonstrates a resolution for deciding on appropriate courses in Massive Open Online Course (MOOC) platforms by addressing the effect of overwhelmingness due to the great number of courses available.

Methodology: The developed Hybrid Course Recommendation System leverages sophisticated technologies such as Natural Language Processing (NLP) and Machine Learning (ML) to provide tailored recommendations based on an extensive Udemy course dataset with the novel design of combining both content-filtering and collaborative-filtering models, further enhancing its recommendation capabilities by considering the specific content and characteristics of each course. Python, a high-level programming language, is used to develop this web-based recommender system. Furthermore, the system includes robust data analysis components, enhancing its overall efficacy in delivering precise and personalized course recommendations.

Findings: The evaluated parameters for the recommendations i.e., diversity, novelty, and relevancy have received a higher success rate through a carefully designed questionnaire.

Practical Implication: The developed course recommendation system can be employed in any place such as institutes, universities, and academies by using their historical dataset since most of the users have been influenced by online education from home during the pandemic situation taken place recently. Furthermore, this system enables the capability of real-time learning while ensuring that users receive recommendations that align seamlessly with their learning objectives.

Originality: This is the first user study that has been done using Sri Lankan user historical data to determine the performance of the newly introduced course recommendation system.

Keywords: Course recommendation, Recommender system, Natural Language Processing, Machine Learning, User-user similarity

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Enhancing the Sustainability of Buildings using Artificial Intelligence and Internet of Things

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ABSTRACT

Purpose: Our study aimed to focus on the substantial progress in building sustainability. This is attained through data analysis and forecasting models, employing Artificial neural networks (ANN) for effective decision-making.

Methodology: The study uses a mixed-method approach, integrating qualitative evaluations of AI and IoT integration strategies with quantitative analysis of building data. Monitoring energy consumption, indoor air quality, and other sustainability indicators entails gathering data in real-time from sensors installed in buildings. Additionally, qualitative research methods such as interviews and case studies are used to understand stakeholder perspectives, challenges, and best practices in implementing AI and IoT solutions for sustainable buildings.

Findings: The research illustrates how the interplay of these concepts aids data analysis, predictive modelling and quick decision making. This collaboration highlights better resource use and a significant reduction in environmental harm which helps create sustainable buildings and ultimately, a sustainable future.

Implications: This helps enhance the use of resources, minimize waste, and preserve the environment more efficiently. This research embraces the fusion of ANN with the Internet of Things (IoT) and artificial intelligence (AI).

Theoretical Contribution: By examining the synergistic potential of artificial intelligence and the Internet of Things in improving building sustainability, this research adds to the body of previous knowledge. By clarifying how these cutting-edge technologies might maximize resource consumption, enhance occupant comfort, and lessen environmental effect in building operations, it increases theoretical understanding.

Originality: Findings originally attained through data analysis and forecasting models, employing Artificial neural networks (ANN) for effective decision-making

Keywords: Artificial Intelligence (AI), Internet of Things (IoT) and sustainability

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Sustainable Development through ICT and Bio Systems Technology

Machine Learning Approach to Heart Attack Risk Assessment

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ABSTRACT

Purpose: Heart attack is the most important section of cardiovascular disease that is very common and fatal. Timely prediction and risk assessment is vital for making dietary and lifestyle modifications that can prevent heart attacks. A non-invasive expert system which can predict the likeliness of getting a stroke is a game changer in this problem domain which uses health and demographic data. The purpose of this study is to optimize heart attack risk assessment using machine learning.

Methodology: Several machine learning algorithms were considered for heart attack prediction, including Logistic Regression, Random Forest, Support Vector Machine (SVM) and XGBoost. The models were trained on a publicly available dataset on UCI Machine Learning Repository and evaluated using appropriate performance metrics such as accuracy, precision, recall, and F1-score.

Findings: Based on the evaluation metrics, the model that achieved the highest performance for heart attack prediction was the Random Forest algorithm. It demonstrated an accuracy of 86% and an F1-score of 85%.

Practical Implications: The insights gained from this project can contribute to early identification and intervention for individuals at higher risk of heart attacks, potentially saving lives and improving healthcare outcomes.

Research Limitations: Further enhancements can be made to improve the prediction by collecting more diverse and comprehensive datasets incorporating additional relevant features such as genetic factors and lifestyle choices.

Keywords: Logistic Regression, Random Forest, Support Vector Machine, XGBoost

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Analysis of Normalized Difference Vegetation Index (NDVI) of Greenery Change in Kalmunai Urban Area

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ABSTRACT

Purpose: This study investigates the change in green cover in Kalmunai, a coastal town in Sri Lanka, with a focus on understanding the factors driving this change and assessing its extent over time.

Methodology: Utilizing satellite data from 1993 to 2023, this research employs the Normalized Difference Vegetation Index (NDVI) technique to quantify changes in green cover. The analysis meticulously examines patterns and developments in vegetation density, particularly focusing on the years 1993, 2003, 2013, and 2023.

Findings: The analysis reveals a noteworthy trend in green cover change over the study period. Between 1993 and 2023, there was a discernible increase in vegetation cover, with a 3.3% overall rise. However, this growth rate diminished to 1.8% between 2003 and 2023, suggesting a slowdown in green cover expansion. Notably, the period from 2013 to 2023 saw a marked surge of 4.2% in vegetation cover, attributed primarily to the expansion of grasslands and balcony home gardens.

Implications: These findings underscore the importance of strategic interventions to address the evolving challenges facing green spaces in Kalmunai. The study highlights the urgent need for policymakers, city planners, and environmentalists to develop sustainable conservation strategies in response to rapid urbanization, population growth, and land use changes.

Theoretical Contribution: This research contributes to the understanding of urban environmental dynamics, particularly in coastal regions experiencing rapid development. By employing the NDVI technique and satellite imagery

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analysis, it provides valuable insights into the quantification and assessment of green cover change over time.

Originality: This study offers a comprehensive analysis of green cover change in Kalmunai, utilizing a longitudinal approach spanning three decades. By focusing on specific years and employing advanced remote sensing techniques, it adds original insights to the literature on urban environmental change and conservation strategies.

Keywords: Green cover, urbanization, population growth, NDVI, environmental dynamics, strategic interventions.

Internet of Things (IoT) - Based Intelligent Direct Current (IDC) Automobile Speed Control System

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ABSTRACT

Purpose: Accidents have become one of the primary sources of man-killers in this fast-moving modern society. Many groups, including government authorities around the globe, are making countless efforts to bring this number of deaths under control, however, they are not successful. Most of these accidents occur due to exceeding the speed limits imposed by the government or authorities. It is necessary to carefully control the speed of a Direct Current (DC) motor to achieve exact Revolutions Per Minute (RPM) to control the speed.

Methodology: This study utilizes an intelligent system that uses the Internet of Things (IoT) to monitor and control motor speed. The entire system is built within the TinderCAD virtual environment.

Findings: This study implemented a smart system that can control the automobile's DC speed as well as measure the speed of the vehicle.

Practical Implications: The project's aim is to minimize the casualties of high-speed crashes by limiting the vehicle's speed as required. This is possible by controlling the acceleration with a programmed device. To determine the motor speed at various applied voltages, the applied voltage to the motor is also measured.

Originality Value: This study proposes a smart system to control the speed of the DC automobile with inexpensive mechanisms. It will help drivers, passengers, and travelers. Further, the system will be helpful for the authorities to implement in vehicles as it is stated in the regulations to prevent unexpected happenings.

Keywords: Internet of Things (IoT), Arduino, Speed Control, Sensor

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Towards Integrated Municipal Solid Waste Management; A Literature Review

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ABSTRACT

Purpose: Municipal Solid Waste Management (MSWM) poses a significant challenge in developing countries due to increasing volumes, changing composition, and diminishing dumping locations, etc. While many societies view waste management as the responsibility of local authorities, numerous municipal governments struggle to cover the escalating expenses associated with it. In recent years, traditional MSW management practices have given way to integrated approaches. This research aims to describe the Integrated Municipal Solid Waste Management approach (IMSWM) through a comprehensive literature review.

Methodology: Online resources have been reviewed, highlighting the frameworks of Integrated Municipal Solid Waste Management (IMSWM).

Findings: Integrated Municipal Solid Waste Management (IMSWM) is introduced as a holistic framework that addresses both the direct and indirect impacts of MSWM. IMSWM integrates the principles of Reduce, Reuse, and Recycle (3R) into waste management. It emphasizes stakeholder integration in decision-making, ensuring sustainable and mutually beneficial outcomes.

Implications: IMSWM reveals the limitations of conventional management practices that often neglect complex social and technological interactions. It underscores stakeholder integration and the identification of common goals benefiting all. The findings provide insights to shape sustainable solid waste management strategies for urban areas.

Theoretical Contribution: This paper provides an overview of the Integrated Municipal Solid Waste Management (IMSWM) approach and identifies gaps in the existing literature.

Originality: A notable gap exists in the literature regarding identification of mutual interactions of stakeholders.

Keywords: complex, interactions, integration, society, stakeholders

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A Study of Ways to Protect IoT Communication Networks from Penetration in Smart Cities

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ABSTRACT

Purpose: This study examines the problems of penetration and hacking of Internet of Things communications networks, explaining the types and methods of global hacking, and how to address these problems in light of the rapid development of communications networks for smart cities.

Methodology: The information and methods used to attack Internet of Things communications networks were collected over the past seven years, detailing each method and the extent of its impact on global Internet of Things communications networks, and then treating these attacks in modern ways that rise to an integrated system of precise technological work.

Findings: The important results were how to avoid these attacks as much as possible by following clear and important steps, and this is shown in Table No. (1) in this research.

Implications: The results provide specific and precise insights into how attackers can fail to attack communications networks and prevent them from reaching their hostile goals.

Theoretical Contribution: It includes a comprehensive survey of methods of penetration and attack by enemies who want to obtain results that benefit them, such as people's confidential data.

Originality: This study falls within the many global studies, but it is unique in its search for important and precise details on how to attack, penetrate, and deal with this kind of actions intended to destroy Internet of Things communications networks.

Keywords: IoT Smart Cities, assault, security

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Orchid (*Oncidium sphacelatum*) Black Leaf Spot Disease

Identification and Investigate the Different Control Methods

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ABSTRACT

Purpose: The objective of this study was to ascertain the pathogen responsible for Black leaf spot disease in Kandyan dancer orchid (*Oncidium sphacelatum)* as well as to determine appropriate and effective ways control *Colletotrichum orchidearum* is the causal agent of this disease.

Methodology: The infected leaf parts were grown in PDA media and the characteristics of the pathogen were examined under a light microscope. The pathogenicity test was done for the Healthy plant by inoculate the pathogen to leaf by using sterilized inoculating needle. In vitro screening tested the efficacy of five recommended fungicides to control this disease. Fungicides such as T1-Cabrio Top (60%), T2- Acrobat 69%WP, T3- Amister 20% SC, T4-Carbendazim 500g/L SC, and T5-Mancozeb 80% WP used for the treatment. These fungicides were evaluated on the growth of *Colletotrichum orchidearum* in a complete randomized design poison food plate method.

Findings: The result shows that the effect of T1, T2 and T3 were suppressing the radial growth(mm) as well as inhibiting the percentage (%) of fungus growth as compared to T4 and T5.

Implications: It has potential benefits to control this disease and increase the yield of flowering and the quality of orchid flowers in floriculture sector.

Theoretical contribution: This is an improvement on the poison food plate method technique.

Originality: This is the first study investigating the control of black leaf spot disease of Kandyan dancer orchid in Sri Lanka.

Keywords: Black leaf spot disease, *Colletotrichum orchidearum,* Fungicides, poison food plate method

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Optimizing Three-Wheeler Operations in Sri Lanka: An Innovative Ride-Sharing Approach

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ABSTRACT

Purpose: This study proposes an innovative ride-sharing strategy to address the challenges of lower revenue and passenger unaffordability in Sri Lanka's single-passenger three-wheeler operations through targeted programs on feeder routes.

Methodology: A comprehensive methodology including a literature review on ride-sharing strategies and informal discussions with three-wheel operators and users, specifically targeting feeder routes, assessed the feasibility of implementing a three-wheel ride-sharing approach.

Findings: This concept incorporates a scheduling approach that assigns operators specific segments of the route based on optimized timetables to ensure fairness and equal opportunity, while also implementing a fare structure tailored to the duration of the journey.

Implications: Implementing the proposed ride-sharing strategy could significantly boost revenue and affordability for operators and passengers respectively, enhancing three-wheeler operations' sustainability in Sri Lanka. The targeted approach on feeder routes might offer a model for similar urban transportation challenges, aiding urban mobility planning globally.

Theoretical Contribution: This study advances understanding by innovatively addressing single-passenger three-wheeler challenges with ride-sharing strategies, enhancing urban transportation efficiency and sustainability.

Originality: This study pioneers a novel ride-sharing strategy to the existing single-passenger three-wheeler operations, revolutionizing urban transportation paradigm.

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Limitations: Weather disruptions, fluctuating demand, fleet availability, and public acceptance of ride-sharing practices could be the limitations.

Keywords: Optimized Ride-sharing strategy, Feeder routes, Revenue, Affordability

Neuro-OCR Fusion for Efficient Grading of Venn Diagram-Based Descriptive Questions

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ABSTRACT

Purpose: The study aims to transform the way that Venn diagram-based descriptive questions are graded in educational examinations (G.C.E Ordinary Level) by combining OCR (Optical Character Recognition) technology with neural networks. With the help of grade 11 students, the research hopes to develop a strong automated grading system that can correctly classify and assess a wide variety of student responses. Beyond merely being efficient, the goal is to improve the authenticity and flexibility of automated grading systems within the framework of authentic student assessments.

Design/Methodology/Approach: The study integrates two important technologies, namely optical character recognition (OCR) and neural networks, using a thorough design and methodology. Using a dataset of 120 real responses to questions based on Venn diagrams, which was obtained from grade 11 students, a neural network is trained during the process. An additional fifteen descriptive-type questions from standard papers are included to improve the system's adaptability and improve the network's capacity to classify descriptive typed question that comes in Set theory (Venn diagram) and the questions are based on two aspects like shaded or unshaded and on the other hand intersection type or union type. Based on that the descriptive answer the students provide will fall into four main categories as, Intersection and Shaded, Intersection and Unshaded, Union and Shaded and Union and Unshaded. To provide resilience and adaptability, the neural network architecture incorporates dropout regularization and sigmoid activation functions. Backpropagation is used in the training phase to iteratively fine-tune the system, enabling it to learn and optimize its decision-making mechanism.

Findings: The automated grading system's blend of neural networks and optical character recognition (OCR) technology produces impressive results. The system is quite accurate at classifying and assessing diagram-based questions, and it provides detailed insights into decision certainty through the use of confidence scores. This study puts automated grading for diagram-based questions at the forefront thanks to its integration of neural network and

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optical character recognition technologies, which are based on local educational traditions.

Practical Implications: This research provides educators with streamlined grading procedures and personalized insights into student interactions. The contextualized dataset promises greater efficiency in teaching techniques by ensuring relevance to regional variations in schooling.

Originality/Value: This study presents a novel method of diagram-based question grading that combines optical character recognition (OCR) with neural networks. The system's legitimacy is enhanced by the incorporation of authentic responses from grade 11 school students, which sets it apart. This system differs in that it introduces confidence scores, which increase openness in the grading process. Given the circumstances, this study presents a novel and useful instrument that may completely alter the way we evaluate student performance and have a long-term effect on learning environments.

Keywords: Automated grading, Artificial Neural Network, Optical Character Recognition, Diagram based questions, educational automation.

Investigation of the Egg Quality Characteristics of Commercial and Domestic Chickens in the Coastal Regions of Ampara District

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ABSTRACT

Purpose: The present study investigated the egg quality characteristics of commercial and domestic chickens under local conditions to assist consumers in making purchasing decisions.

Methodology: Sixty eggs from White Leghorn (WL) and Naked Neck (NN) chickens were analyzed for their external and internal egg quality characteristics.

Findings: The external characteristics i.e., mean egg weight (60.23 ± 3.57g), egg length (57.76 ± 3.574mm), egg width (55.23 ± 3.52mm), and shape index (95.56±1.570) of WL were significantly ($p < 0.05$) higher than the NN breed. The mean shell thickness (0.75 ± 0.139mm) was significantly higher ($p < 0.05$) in NN breed than WL. The internal characteristics i.e., the mean albumen height (6.78 ± 0.787mm), yolk length (41.68 ± 1.026mm), yolk width (39.17 ± 1.183mm), and yolk index (93.97 ± 0.973) were significantly ($p < 0.05$) higher than NN breed. The yolk color – deep yellow (9.47 ± 1.135) and albumen pH (8.53 ± 0.237) were significantly ($p < 0.05$) higher in NN breed. Based on the weights of eggs, the eggs of WL and NN can be categorized as extra large and small respectively according to the Sri Lankan Standards for eggs (SLS 959:1992).

Practical implications: The larger egg size of commercial breed (WL) and the deep yellow yolk color of domestic breed (NN) are important for table eggs whereas the thicker egg shell of NN breed is important to protect from breakage.

Research limitations: Obtaining the exact age of the NN breed was rarely feasible.

Originality/value: The study made available the external and internal egg quality characteristics of WL and NN chickens for table eggs.

Keywords: Egg weight, Shell thickness, York color, Consumer preference

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A Cryptographic Odyssey - Navigating Encryption Frontiers, Deciphering Key Dimensions, and Safeguarding Networks

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ABSTRACT

Purpose: Cryptography is indispensable for establishing secure communication in diverse contexts. We aim to rectify the limitations of prior evaluations which often only consider common parameters in terms of performance and to provide insights for the future of secure communication.

Methodology: A systematic methodology involves diverse learning strategies, and conducting an extensive survey through relevant research publications in cryptography. Rigorous planning and validation of search strings are integral, utilizing recent, highly-cited articles from the Scopus database and filtering through esteemed conferences and journals.

Findings: The evaluation of symmetric encryption algorithms reveals varying security levels. AES emerges as the most secure, demonstrating excellence across different key lengths and robustness in both hardware and software environments. The study emphasizes key management's critical role, noting that the strength of cryptographic methods lies in careful key selection and maintenance. While Symmetric Key Cryptography's key sharing poses risks, Asymmetric Key Cryptography, with distinct public and private keys, enhances security, complemented by Digital Signatures for data secrecy and non-repudiation.

Implication: This nuanced approach highlights the delicate balance between security measures and ease of usage, ensuring a resilient information system against diverse attacks.

Theoretical Contribution: This study takes a comprehensive approach, integrating both Secret Key Cryptography and Public Key Cryptography for assessment. It highlights the importance of key management in cryptographic systems and provides nuanced insights into the security and usability trade-offs in cryptographic methods.

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Originality: The key explorations encompass a broad understanding of network security issues, cryptographic algorithm categorization, comparative analyses of symmetric encryption algorithms, examinations of symmetric and asymmetric algorithms, and a detailed comparison of encryption algorithms based on key sizes. This multifaceted exploration provides a holistic perspective, addressing gaps in existing analyses.

Keywords: Secret Key Cryptography, DES, AES, Blowfish, Public Key Cryptography

Leveraging Mobile Applications for English Language Learning: A Preliminary Literature Review

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ABSTRACT

Purpose: This literature review aims to provide a preliminary overview of the existing research on the use of mobile applications in English language learning. The primary objectives include understanding the effectiveness of mobile apps in enhancing English language learning skills.

Design/Methodology/Approach: It involves the systematic analysis of ten existing studies, encompassing different methodologies, participant demographics, and language learning aspects that investigate the impact of mobile applications on English language learning.

Findings: The review reveals a positive trend in leveraging mobile applications for language learning. Mobile apps demonstrate effectiveness in enhancing vocabulary acquisition, grammar improvement, pronunciation skills, oral production, and listening skills. The review identifies common themes such as increased student motivation, engagement, and preferences for interactive and personalised learning experiences.

Practical Implications: The findings of this literature review have practical implications for educators, curriculum developers, and language learning practitioners. The integration of mobile applications into language education can enhance the overall learning experience by catering to diverse learner needs, fostering motivation, and providing opportunities for interactive and personalised learning.

Research Limitations: Despite the positive trends identified, limitations within the reviewed studies include the small number of articles chosen and the absence of coverage of comprehensive comparative analyses with traditional learning methods. These limitations highlight the need for further research to address gaps in understanding the long-term effects, individual differences, and optimal design features of mobile applications in language learning.

Originality Value: This review stands as a preliminary study that contributes to the use of mobile applications, in English language learning.

Keywords: Mobile applications, Learning English, Educational Technology.

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The Effects of Different Propagation Media on the Vegetative Growth and Plant Production of Marble Queen (*Epipremnum aureum* L.) Using Stem Cuttings

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ABSTRACT

Purpose: Marble queen (*Epipremnum aureum* L.) is considered as one of the demanding ornamental foliage plants that can be exported as rooted stem cuttings. However, successful propagation media has yet to be developed for commercialization. Hence, this study was carried out to identify the effects of different propagation media on the production of plantlets.

Methodology: The experiments was carried out at the Omega Green (Pvt) Limited, Godigamuvwa, with four types of propagation media *viz*: Oasis foam (T1), peat moss (T2), peat moss + coir dust at 1:1 ratio (T3) and coir dust (T4, as absolute control) and the treatments were arranged in Complete Randomized Design (CRD) with four replicates. In total, 2000 stem cuttings were trialed under 40 % shade net house conditions. After six-weeks, the mean number of shoots, leaves, roots, shoot length per pot and total number of accepted pots were assesed.

Findings: Our study revealed that propagation media had significant effects on the above vegetative growth parameters ($p<0.05$). Further, it was found out that (T2) media denoted with superior performances in producing higher number of shoots (3.0 pot^{-1}), roots (8.0 pot^{-1}) and leaves (2.6), shoot length (2.6 cm) and total number of accepted pots per 20 pots (14.0) when it was treated with peat moss. While the T4 (coir dust) exhibited the second highest performance, and the least was denoted by oasis foam (T1).

Implications: Based on the overall performance, peat moss media can be recommended to be used in commercial propagation of marble queen plantlets derived through stem cuttings.

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Theoretical contribution: The improved performances of the peat moss media might be related to its increased nutrient exchange capacities along with other physical properties which favors root growth and eventually produce export quality plantlets compared to the other media.

Originality: This study is a foundation for developing a commercial propagation media for marble queen plant.

Keywords: coir dust, Epipremnum aureum L., oasis foam, propagation media, peat moss

Digital Information and Library Services for Sustainable Development

Using Social Media for Learning Purposes During the COVID-19 Pandemic: A Gender-Based Analysis Among Dental Science Undergraduates at the University of Peradeniya, Sri Lanka

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ABSTRACT

Purpose: The study aims to investigate how male and female new entrants to the Faculty of Dental Sciences of the University of Peradeniya use social media, particularly for information needs related to their academic programs during the COVID-19 pandemic.

Methodology: The study was carried out at the Library of the Faculty of Dental Sciences during the orientation program conducted for the new entrants. Although 117 students had been registered in the academic year 2022/2023, only 112 students participated in the survey.

Findings: Findings indicated that WhatsApp, Facebook, and ResearchGate were the widely used social media platforms by Dental Science undergraduates during the COVID-19 Pandemic specifically for academic purposes. Of the respondents, most of the female undergraduates (70%) used social media for searching Scientific and academic information related to their subject matters. In comparison, most male students (91%) used social media for entertainment purposes. The student's perception of social media's most significant advantage was that it allowed them to keep closer relationships with their friends. (Male:94%, Female:76%) ; however, at the same time, most of the male students (72%) believe that social media behavior is quite a time-consuming matter while 64% of female students emphasize that SM behavior adversely affects their academic activities. Though social media can be extensively used for learning purposes, the results show that a significant percentage of students (35%) are unaware of its significance and the opportunities it presents for learning.

Conclusion and Recommendations: Most respondents seem to prioritize using social media for entertainment rather than accessing educational content or features available on these platforms. The findings suggest that the authorities and educational institutions in Sri Lanka should investigate how to encourage students to use social media platforms for education.

Keywords: *Social Media, COVID-19, Undergraduates, Learning, Sri Lanka*

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User Perspectives on Digital Reference Services (DRS): A Study of State University Libraries in Sri Lanka

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ABSTRACT

Purpose: The provision of human intermediated service to users over a digital network is identified as DRS and an essential service for novel users who are much more comfortable with new technologies. It is a question whether patrons are aware of DRS available for them. This study demonstrates the users' awareness level on DRS, benefits and user suggestions to improve DRS activities in academic libraries in Sri Lanka. Identifying the available ICT facilities for DRS, level of satisfaction on DRS, the benefit obtained through DRS and identifying suggestions to improve DRS in Sri Lanka are the objectives of the study.

Methodology: Undergraduates of the state universities in Sri Lanka were the population of the study where 240 number of responds selected using the convenience sampling technique via an online questionnaire survey. Poor response of the users was a major limitation.

Findings: Results revealed that many of the users are aware about computers, servers, scanners, and printers along with Wi-Fi facilities are available at their libraries for DRS. Only 22% of the respondents aware about library mobile apps and 33% about online indexes used for DRS. 36% of users previously used DRS. 25% stated that DRS need more improve where 23% are satisfied with what they obtained as DRS. Users were not happy about video conferencing, reference bots and web reference among the DRS provided. Personalized Service, convenience, time factor, no time and location barriers and faster service identified as highest ranked benefits by the users. Improving network facilities, online resources with remote access facilities, funding for establishing well equipped libraries with proper infrastructure, providing awareness and adequate training were the suggestions for improving DRS by the library users. This is denoted that whatever the back-end processes were there when implementing DRS in libraries, what users feel is the interface and the services through the platform.

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Implications: Librarians must focus their attention on developing user friendly interfaces to cope with end users in real time and in a sustainable manner. With the support of the donors and collaboration academic libraries may enhance their digital collections to have rich knowledge base to provide better DRS in future.

Keywords: Digital Reference Service, University Libraries, User perspective

Information Retrieval Practices in Dissertation Writing: A Study Among Postgraduate Diploma Students in the Department of Education, University of Peradeniya.

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ABSTRACT

Purpose: This study aims to assess information retrieval practices among Postgraduate Diploma students in the Department of Education (PGDE) at the University of Peradeniya. The submission of a dissertation (15,000–20,000 words) emphasizes the significance of effective information retrieval in constructing a comprehensive dissertation. Consequently, this study focuses on understanding the information needs, retrieval methods, and library utilization by students during dissertation preparation.

Methodology: The survey targeted the 2019/20 batch, with all 54 students selected and 35 (65%) students responded to this survey. Data collection employed a questionnaire, and descriptive analysis was performed using SPSS statistical software version 21.

Findings: Survey results indicated that a majority of students use the library for books borrowing and referencing their own course materials. However, 72% face challenges accessing reading materials, 60% lack knowledge in using library resources, and 76% reported inadequate ICT facilities. Furthermore, 64% are unaware of library resource utilization, while 69% of students mentioned that it is difficult to use the library due to heavy teaching loads and numerous assignments.

Conclusion: The overall information retrieval pattern falls now in a satisfactory level, revealing students have poor knowledge and attitudes toward electronic resources, academic social network sites, and open-access databases. Further, these students primarily use the Google search engine to find information sources. In conclusion, the study suggests the need for awareness programs, orientations, and guidelines implemented by the Department of Education and the Library to assist students in dissertation preparation. These initiatives aim to address deficiencies in information retrieval practices, ultimately enhancing the quality of academic research.

Keywords: Information retrieval, Library use, Postgraduates, Information seeking, Dissertation

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Journal of Sri Lanka Library Review: A Bibliometric Study

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ABSTRACT

Purpose: This paper studies a bibliometric analysis of the journal titled "Sri Lanka Library Review" for the period from 2013 to 2022 over 96 articles.

Methodology: The data were collected from the printed and online journals and were analysed mainly of the year-wise productivity, authorship pattern, co-authorship trends, subject wise distribution of articles, author productivity, language wise distribution and length of paper.

Findings: The result showed that out of 96 articles the highest number of total articles was in 2020 with 13 (13.54%) and next 12 (12.5%) that were published in 2015. The single author contributed 71 (73.95%) articles while joint authors contributed the rest of 25 (26.05%) articles. This data indicates that over 27.60% of authors performed their research collaboratively. Out of the total 19.80% are on 'Library Profession and professional Development' followed by 17 (17.70%) were on 'Library Services, Quality and SDG'. Lease number was recorded for the subject coverage of 'Traditional Knowledge' 3 (3.13%). According to the author's productivity, only 72.41% will have one publication and 18.39% will have two publications. About the language wise distribution out of 96 articles, 54 (56.25%) produced the articles in English language being the first position of the journal following 28 (29.16%) in Sinhala language and Tamil language articles indicated as 14 (14.58%) in the journal. The study indicated that the average length of an article is 15.11 pages and it varied from a minimum of 10.27 to a maximum of 17.11 pages.

Conclusions: The study pointed towards the merits and weakness of the journal and the publishing trends of the journal.

Implications: The results obtained present a roadmap for further expansion and development of research in LIS field.

Keywords: bibliometric, library and information science, research trends, authorship patterns, Sri Lanka

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Scholarly Communication Trend of "Kalam" Journal Published by Faculty of Arts & Culture, South Eastern University of Sri Lanka: Bibliometric Study

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ABSTRACT

Purpose: This study focuses on the articles published in the journal titled "Kalam", by the Faculty of Arts & Culture, South Eastern University of Sri Lanka from its inception in 2001 to 2023. The objective of this study is to analyze the journal in terms of essential bibliometric features such as distributions of publications, subject coverage, language diversity, authorship pattern, author productivity, growth trend, influential contributors, and contributing institutions/ departments.

Methodology: Bibliometric analysis was applied to retrieve results from manually extracted data from the Institutional Repository of South Eastern University of Sri Lanka by using MS Excel.

Findings: A total of 336 articles authored by 486 authors were published during the study period from 2001-2023. The distribution of publications varies based on language and subject coverage. Tamil is the dominant language that contributes 170 papers whilst 164 papers in English and 02 papers in Sinhala were found. Considering the subject wise distribution, Among the 336 publications Economics leads other disciplines such as Political Science, Education, Sociology, Languages, Religion, Geography, and Philosophy. The majority 203 of the articles were contributed by single authors. Among the productive authors, M.Riswan from the Department of Social Sciences of South Eastern University of Sri Lanka was in the top position with 10 articles. Author productivity was compared based on Lotka's equation. The scholarly communication trend of this journal, especially with Social Sciences and Humanities fluctuates over the years.

Implications: This study recommends being stick on specific periodicity, attracting more papers in the English language, international collaborations, and considering impactful research topics. This research provides insights to Kalam journal editors to consider Bibliometric parameters.

Practical Contribution: This study delves into essential bibliometric features that a journal should consider yielding more productivity, citations, and collaborations.

Originality: This is the first study examining the bibliometric features of the publications of the South Eastern University of Sri Lanka, especially 'Kalam' journal. All analysis and the methods are specific and novel in this journal concern.

Keywords: Bibliometric Analysis, Scholarly Communication, Research trend