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ARTICLES IN THIS ISSUE

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

Objectives

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

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The journal provides policies, which contain comprehensive details regarding the submission, editorial, and publishing processes as well as recommendations for authors and reviewers. To ensure a seamless and moral publishing process, all the parties are presented with their respective rights and obligations.

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IJCBR has implemented a double-blind review method, with at least two subject-matter experts serving as reviewers for each proposal. The editorial board of the IJCBR takes on the responsibility of keeping a pool of qualified, up-to-date reviewers to satisfy the demands and overall standard of submissions received. During the review process, the editorial board will strictly maintain the anonymity of the authors and reviewers. Given that it can be challenging to obtain qualified reviewers on occasion and that reviewer reports sometimes take a while to arrive, it can take a long time to evaluate and decide.

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FROM THE EDITOR

Welcome to Volume 4, Issue 2 of the International Journal of Contemporary Business Research (IJCBR), published bi-annually by the Faculty of Business, NSBM Green University, Sri Lanka. As a multidisciplinary platform, IJCBR continues to bridge academic inquiry and practical application, offering insights that address the evolving challenges of business, management, and society.

This issue presents a diverse collection of studies that reflect both local relevance and global resonance, spanning themes of digital transformation, language and identity, sustainability, technology in education, and assessment practices. Together, these contributions underscore the journal's commitment to advancing rigorous, impactful, and actionable research across disciplines.

The opening paper, "Enhancing Theatre Business Through Social Media: A Case Study of Nallur Drama Nights" explores how digital platforms such as Facebook, WhatsApp, and YouTube can revitalize community theatre in post-conflict regions. The study highlights the potential of social media to enhance audience engagement, increase attendance, and support financial sustainability, while also addressing challenges of inconsistent participation.

In "Attitudes and Awareness of Teachers of English Towards Sri Lankan English (A Study Based on Mawathagama Division of Kurunegala District)", the perceptions of English teachers are examined to reveal a persistent negative stance toward Sri Lankan English (SLE), despite evidence of its pervasive use. The study calls for language planning interventions and formal recognition of SLE as a legitimate variety, offering pathways to break the dominance of Standard English models in education.

Sustainability and consumer behavior take center stage in "Factors Influencing Consumers' Purchase Intentions toward Green Products in Sri Lanka's Food and Beverage Industry: An Extended Theory of Planned Behavior Approach". Using the extended Theory of Planned Behavior, the research identifies environmental consciousness, health consciousness, and attitudes as key drivers of green purchasing. The study provides practical recommendations for managers and policymakers to strengthen eco-labeling, food safety standards, and consumer trust in green products.

Technology and language learning are critically assessed in "Understanding Google Translate's Limitations in English–Chinese Translation: A Linguistic Error Analysis

Approach". Through systematic error analysis, the study uncovers persistent linguistic and contextual inaccuracies in Google Translate outputs, offering valuable insights into its pedagogical implications and cautioning against overreliance on machine translation tools in language education.

Finally, "Assessment Types and Learning Effectiveness among Undergraduates: Evidence from a Sri Lankan Private University" investigates the impact of formative and summative assessments on student learning. The findings emphasize the strong influence of formative assessments in enhancing learning effectiveness, while also highlighting the role of student motivation and learning fondness in shaping outcomes.

Together, these papers reflect the journal's mission to foster scholarship that is both theoretically robust and practically relevant. They provide fresh perspectives on how digital tools, language identity, sustainability practices, and educational strategies intersect with contemporary business and societal challenges.

We extend our heartfelt gratitude to the authors, reviewers, and editorial board members whose dedication ensures the continued quality and integrity of IJCBR. As you engage with this issue, we encourage you to reflect on the insights presented and consider how they may inform your teaching, research, and professional practice.

Let us continue to inspire thought, foster collaboration, and contribute to building a more inclusive, sustainable, and innovative global business environment.

Prof. Lester Jhonson

Editor-in-Chief

International Journal of Contemporary Business Research

Enhancing Theatre Business Through Social Media: A Case Study of Nallur Drama Nights

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Abstract

This study explores the transformative role of social media in revitalizing community theatre through a case study of the "Nallur Drama Nights" initiative in Northern Sri Lanka. The project, addresses the creative and emotional needs of children in a post-conflict region while providing sustainable income opportunities for local artists. The key objectives are to assess how digital platforms influence audience engagement and attendance and examine the economic impact of social media marketing on local theatre sustainability. It also identify best practices for integrating digital tools into community arts promotion. Employing platforms such as Facebook, WhatsApp, and YouTube, the initiative demonstrates how grassroots theatre can leverage digital tools for marketing, engagement, and sustainability. Through a mixed-methods approach, quantitative audience data and qualitative insights from stakeholders reveal the impact of targeted social media strategies, including dynamic content and community-driven communication. The study was conducted between June 5 and October 7, 2024, encompassing 18 theatre events during this period. The findings underscore the potential of digital marketing to enhance visibility, increase attendance, and support financial stability in theatre programs. However, challenges such as inconsistent engagement highlight the need for strategic planning and optimization. This research provides actionable recommendations for integrating social media into the promotion and operational frameworks of theatre businesses, emphasizing the balance between artistic integrity and economic viability.

1. Introduction

Theatre has historically served as a vital medium for cultural expression, storytelling, and community engagement, offering a platform for audiences to connect deeply with artistic narratives. In the context of Northern Sri Lanka, the "Nallur Drama Nights" initiative is a prime example of how theatre can be revitalized to address modern societal challenges while preserving its traditional essence. Spearheaded by Dr. T. Thevananth, a noted dramatist and communications scholar, this program seeks to balance the educational focus prevalent in Sri Lankan Tamil communities with opportunities for creative expression and emotional development among children.

Sri Lankan Tamils are globally recognized for their academic achievements, often placing significant emphasis on education. However, this focus has, in recent years, come at the cost of play and leisure activities, especially in post-civil war Northern Sri Lanka. Organized activities fostering creativity and joy for children are nearly non-existent, creating a pressing need for initiatives like "Nallur Drama Nights." This program offers children a unique space to engage in activities such as chalk drawing, traditional games, dance, and drumming, alongside live performances including puppet shows and theatrical plays. Studies have shown that such activities contribute to improved emotional expression, stress reduction, and social bonding, making them essential for holistic development (Sternberg, 2003; Harland et al., 2000).

One of the core objectives of the program is to provide local artists with an avenue for earning a sustainable income while serving the community. Theatre artists, like many in the performing arts, often face economic challenges, particularly in smaller communities. By creating a recurring event that involves both local talent and external theatre groups, "Nallur Drama Nights" not only nurtures the local arts scene but also addresses the financial instability commonly associated with the profession (Brown et al., 2002). To ensure long-term sustainability, the initiative has prioritized cost-effective methods of promotion, focusing heavily on digital platforms.

Social media has become a transformative tool for marketing in the performing arts, offering significant advantages in cost and reach. Platforms such as Facebook, WhatsApp, and YouTube have been the primary advertising channels for "Nallur Drama Nights," reflecting the increasing reliance on digital-first strategies among grassroots arts initiatives. Facebook's ability to facilitate niche targeting allows event organizers to reach specific audiences based on location, interests, and demographic profiles, enhancing engagement and attendance (Kaur, 2020). WhatsApp groups, on the other hand, foster intimate and community-driven communication, which has been found to be highly effective in promoting local events (Church & De Oliveira, 2013). Studies further indicate that social media campaigns are particularly successful in creating word-of-mouth promotion, a critical factor in attracting new audiences and retaining existing ones in community-focused initiatives (Kapoor et al., 2018).

Figure 1: Weekly advertisement for Saturday drama night

Despite its successes, the initiative faces the challenge of achieving financial sustainability without compromising on quality. While digital tools have minimized costs compared to traditional advertising methods, such as newspaper ads and mobile announcements, there is room for optimization; see figure 1. Research suggests that integrating more dynamic content strategies, such as video trailers, behind-the-scenes footage, and interactive posts, can significantly enhance audience engagement and ticket sales (Ashley & Tuten, 2015). Moreover, leveraging advanced analytics provided by platforms like Facebook can help organizers better understand audience behavior and refine their marketing efforts (Kingsnorth, 2019).

The "Nallur Drama Nights" initiative serves as a case study in the intersection of traditional theatre and modern marketing techniques, demonstrating how grassroots artistic projects can thrive in the digital age. By examining the application of social media strategies through the lens of Church and De Oliveira's (2013) framework, this research aims to provide actionable insights for enhancing the visibility, engagement, and profitability of theatre initiatives. As digital marketing continues to evolve, its potential to support and sustain the performing arts, particularly in under-resourced communities, remains a promising avenue for exploration.

2. Literature Review

The integration of digital marketing strategies in the performing arts sector has been extensively studied as a means to address the challenges of sustainability and audience engagement. Scholars have highlighted the shift from traditional marketing methods, such as print and broadcast advertisements, to more cost-effective and interactive digital platforms. Facebook and WhatsApp, for instance, have been recognized for their ability to foster community engagement and promote events through niche targeting and interpersonal communication (Church & De Oliveira, 2013; Kaur, 2020). This is particularly relevant in the context of smaller-scale, community-driven initiatives, where budgets for

marketing are often constrained. Social media tools enable organizers to reach specific demographics, enhance visibility, and build sustained relationships with audiences.

Research by Kapoor et al. (2018) emphasizes the role of social media in creating and disseminating word-of-mouth promotions, a critical factor in ensuring the success of local theatre programs. Platforms like Facebook allow event organizers to design campaigns that resonate with target audiences, leveraging features such as event pages, sponsored posts, and user-generated content to enhance outreach. Similarly, WhatsApp is noted for its capacity to create tightly-knit communication networks, enabling direct engagement with community members and fostering grassroots support (Kietzmann et al., 2011).

In the performing arts, digital marketing strategies are particularly effective in driving engagement and attendance. Brown et al. (2002) argue that the personalization and immediacy offered by social media platforms contribute to increased audience loyalty. This is supported by Ashley and Tuten (2015), who highlight the importance of dynamic content, such as videos, photos, and interactive posts, in building stronger connections between artists and audiences. Video trailers and behind-the-scenes content, for example, provide audiences with an intimate look at the creative process, thereby enhancing their emotional investment in the program.

Economic sustainability in the arts is another recurring theme in literature. Studies indicate that digital platforms not only reduce marketing costs but also generate significant returns by optimizing resource allocation and expanding audience reach. Kingsnorth (2019) underscores the value of analytics tools in refining marketing strategies, enabling organizers to identify trends, understand audience preferences, and adjust campaigns accordingly. These insights are crucial for initiatives like "Nallur Drama Nights," where maximizing limited resources is a priority.

The cultural and emotional impact of theatre programs is well-documented, with scholars emphasizing their role in fostering community cohesion and personal development. Harland et al. (2000) note that participation in arts-based activities enhances emotional expression, teamwork, and cognitive skills, making them vital for holistic development. The inclusion of storytelling, dance, and traditional games in theatre programs aligns with findings by Sternberg (2003), who highlights the therapeutic and educational benefits of such activities, particularly for children in post-conflict settings.

While the use of social media in promoting theatre has proven effective, challenges remain in optimizing its potential. Research by Kaur (2020) and Kapoor et al. (2018) suggests that a multifaceted approach, combining social media with offline strategies such as community partnerships and local collaborations, can further enhance the impact of theatre programs. These findings provide a robust theoretical framework for understanding how initiatives like "Nallur Drama Nights" can leverage digital marketing to achieve both artistic and economic sustainability.

3. Methodology

This study employs a mixed-methods approach to explore how social media can be optimized to enhance the sustainability and profitability of community-based theatre initiatives, using "Nallur Drama Nights" as a case study. Quantitative methods include data collection on audience demographics, ticket sales, and engagement metrics from social media platforms like Facebook and WhatsApp. Metrics such as post reach, impressions, likes, shares, and event attendance data are analyzed to assess the effectiveness of digital marketing efforts. These data are collected using platform analytics tools, such as Facebook Insights and WhatsApp activity trackers, to provide measurable insights into audience behavior and campaign performance.

Qualitative methods involve semi-structured interviews and focus group discussions with key stakeholders, including event organizers, artists, and attendees. Interviews with organizers and artists explore their perspectives on the challenges and benefits of using social media for promotion, as well as their strategies for content creation and audience engagement. Focus groups with attendees aim to understand their motivations for participation, their perceptions of the initiative, and the role social media played in their decision to attend. This qualitative data provides a nuanced understanding of how social media influences both the operational and experiential aspects of the program.

Additionally, a content analysis of the social media posts, event pages, and promotional materials used in "Nallur Drama Nights" is conducted to identify patterns in messaging, visual appeal, and user interaction. This analysis examines how different types of content—such as videos, images, and textual posts—perform in terms of engagement and reach. The findings from this analysis are compared with existing literature on digital marketing in the performing arts to identify best practices and areas for improvement.

To complement the primary data, secondary data sources such as reports, prior studies, and academic literature on social media marketing and theatre sustainability are reviewed. These sources provide a theoretical framework for understanding the relationship between digital marketing and community-based theatre initiatives, grounding the findings in established scholarship.

The study also incorporates an experimental component by implementing targeted social media campaigns during the project's second phase. Different content strategies, including video trailers, live streaming, and interactive posts, are tested to determine their impact on engagement and ticket sales. The results from these campaigns are compared with baseline data from the initial phase to assess improvements and draw actionable recommendations.

By integrating quantitative metrics, qualitative insights, and experimental approaches, the methodology aims to provide a comprehensive understanding of how social media strategies can be optimized to support the sustainability of theatre programs like "Nallur Drama Nights".

4. Data Presenting & Discussion

The Nallur Drama Nights program, which began on June 5th, concluded its first phase on October 7th with its 18th event, ending due to the onset of the rainy season. During the initial phase, both traditional and social media advertising methods were utilized to promote the program. A total of 1,000 flyers were printed and distributed across eight local schools. These flyers were handed out to parents during school closing hours and shared with school administrations through the support of school principals. Additionally, announcements were made in neighboring villages via loudspeakers mounted on motorcycles.

Figure 2 : Engaging Video Publicity for Saturday Drama Night Activities – Achieves 2.6K Plays

Figure 3 : Viral Media Publicity: Children's Stage Dance gets 1.2 K Facebook Views

Promotional banners were placed outside five prominent schools, and with the cooperation of school authorities, the program was shared within class-specific WhatsApp groups; see figure 2. It was also

circulated in various artistic WhatsApp groups and Facebook pages, targeting broader audiences. Efforts were made to establish a recognizable brand identity for Nallur Drama Nights, using a consistent logo across weekly events while diversifying the event themes and promotional colors to create visual variety. These weekly variations aimed to draw increased attention and engagement from the public. Post-event videos and images were shared online, with videos receiving notable traction, garnering approximately 1.2 k views; see figure 3. Additionally, a brief note on the program shared by a prominent figure from the film industry was widely distributed by about 215 individuals. The program's official Facebook page, with 5 million followers, recorded significant engagement, further amplifying the reach of the promotions.
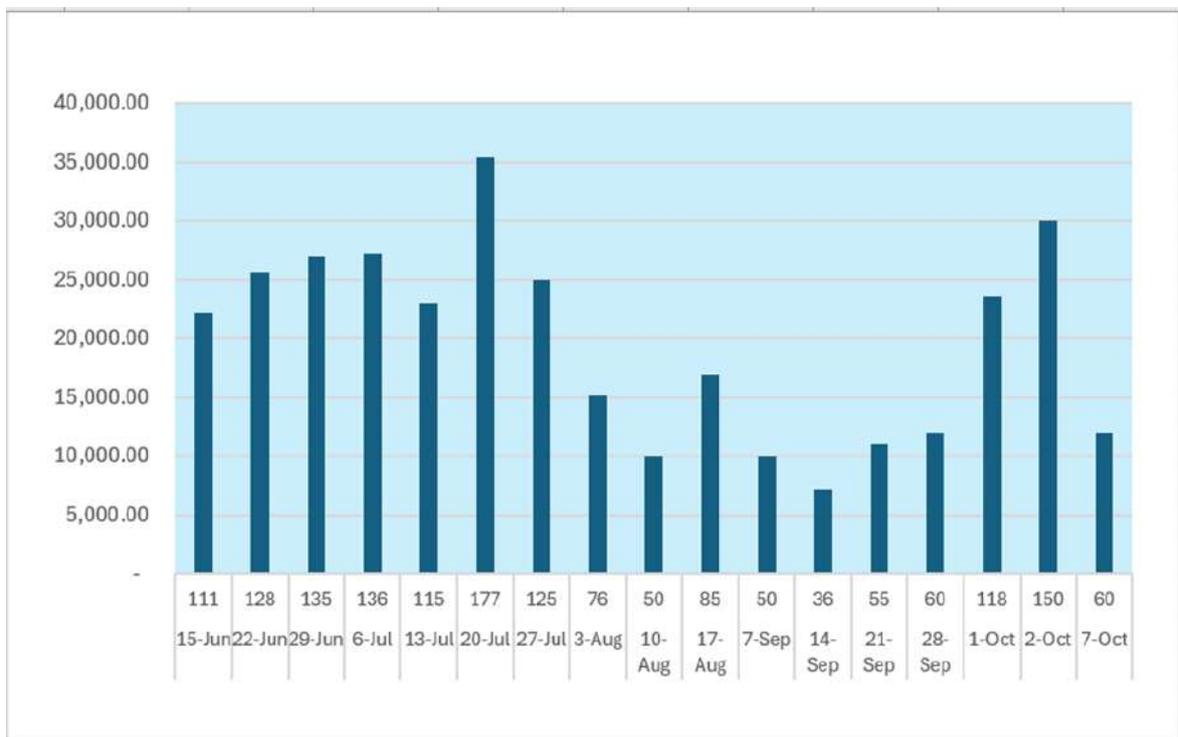
Figure 4 : Income generation from 15th June -7th October 2024

The provided bar chart (Figure 4) illustrates audience attendance figures (or another related metric) across multiple dates for the Nallur Drama Nights events. Here's the detailed analysis and interpretation based on the data presented.

1. **Initial Growth Phase**:

   o From June 15th to July 13th, there is a noticeable upward trend in attendance figures. Starting at 20,000 on June 15th, attendance steadily increased, reaching around 25,000–30,000 by late June and early July. This indicates strong initial interest, likely due to effective promotional efforts during the launch phase.

2. **Peak Attendance**:

   o The highest attendance was recorded on July 20th (around 35,000), indicating a peak in the program's popularity. This could be attributed to intensified promotional activities or a particularly appealing event during this week.

3. **Decline in August**:

   o Attendance dropped significantly after July 27th, with figures falling to around 7,000–10,000 during the first half of August. This decline could suggest waning audience interest, external factors such as weather or competing events, or reduced promotional effectiveness during this period.

4. **Stabilization in September**:

   o Attendance figures stabilized during September, fluctuating between 5,000 and 10,000. Although lower than the initial phase, this plateau indicates a consistent, albeit reduced, audience base.

5. **Renewed Interest in October**:

   o October shows a resurgence in attendance, with figures peaking again at 30,000 on October 2nd before dropping to 10,000 on October 7th. The sharp increase in early October suggests successful promotional efforts or a particularly engaging event.

6. **Key Observations**:

   o There are fluctuations throughout the timeline, indicating variability in audience engagement. Peaks and troughs likely correspond to changes in marketing strategies, event content, or external factors influencing attendance.

   o The consistent audience base in September, albeit at lower levels, suggests loyal engagement from a core demographic despite the overall decline.

   o October's peak highlights the potential for strategic planning, such as focused promotions or special events, to rejuvenate audience interest.

The pie chart (Figure 5) shows the distribution of expenditures in a theatre business, highlighting key areas of spending and opportunities for financial sustainability. The largest portion of expenses is allocated to honorariums for artists and facilitators, demonstrating the theatre's emphasis on quality talent to enhance its performances. Investments in sound and lighting constitute the second largest expense, ensuring an enriched audience experience and providing potential for higher ticket prices or venue rental income. Venue maintenance, while a moderate cost, is critical for creating a professional and inviting space. Strategic partnerships or sponsorships could help offset these expenses.

Expenditure based on the category

12,462.00 12,462.00 13,380.00 9,020.00 20,540.00

211,500.00

112,000.00

53,620.00 2,980.00

- ■ Activity supplies
- ■ Advertising
- ■ Honorarium
- ■ Printing
- ■ Refreshments
- ■ Sound & lighting
- ■ Utilities
- ■ Venue maintenance
- ■ Misc
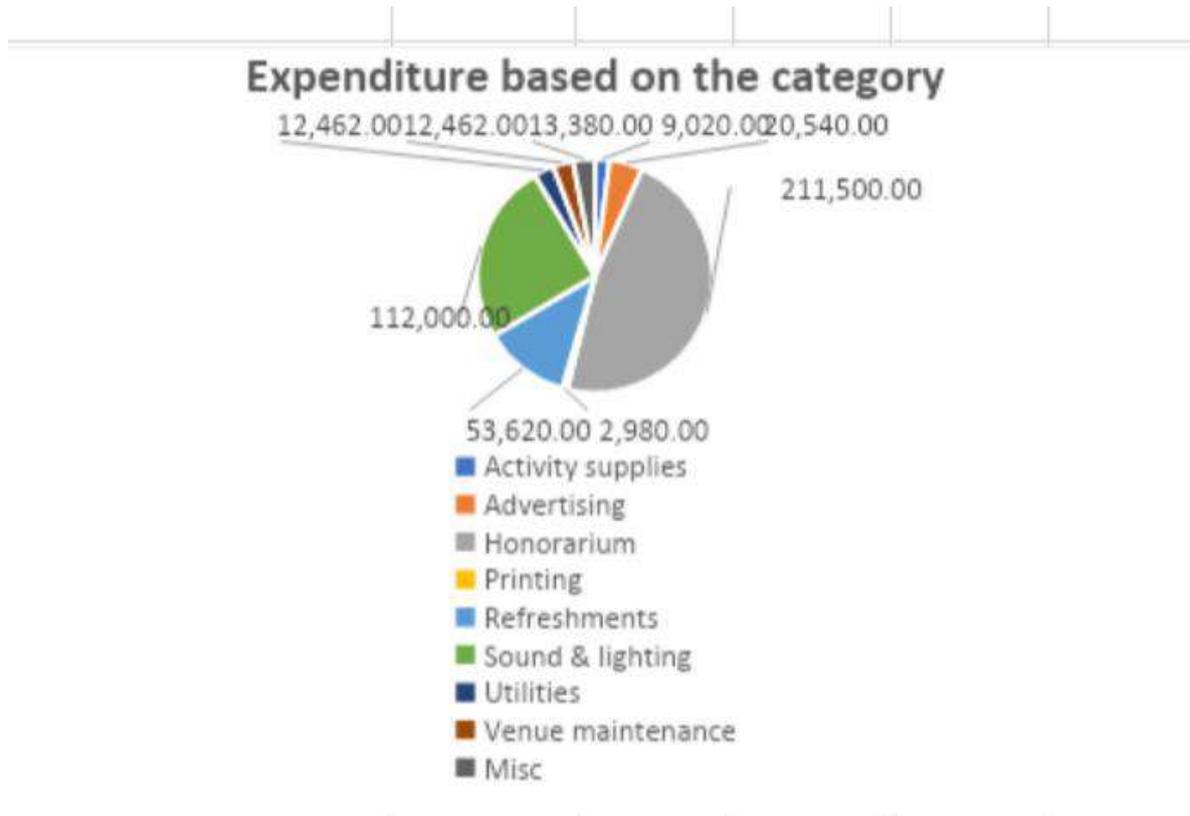
Figure 5 : Expenditure based on the different categories

Smaller categories like activity supplies, advertising, utilities, printing, refreshments, and miscellaneous costs, though relatively minor, offer room for optimization. For example, leveraging digital marketing could reduce advertising and printing expenses, while energy-efficient solutions could lower utility bills. Refreshments could be turned into a revenue stream by offering premium options during events.

The theatre has significant business potential by enhancing revenue through premium ticket pricing, venue rentals, and concessions. Partnerships with local businesses and organizations, along with seeking grants and government funding, could provide additional support for operational and capital costs. Engaging audiences with interactive activities like workshops or live-streaming performances could drive repeat attendance and expand reach. However, balancing high fixed costs like sound, lighting, and honorariums with consistent ticket sales will be crucial. Strategic cost management, combined with innovative revenue generation, can ensure the theatre's growth and sustainability.

5. Conclusion

Despite these efforts, the program's reliance on social media advertising has shown inconsistent results, with peaks and dips in audience engagement. Some schools, motivated by individual connections,

organized special screenings of the event, resulting in higher participation among children. However, the overall growth through social media remained uneven, suggesting a lack of sustained momentum in leveraging these platforms effectively.

Visual storytelling remains a key strength of Nallur Drama Nights, presenting significant potential for social media advertising. To maximize this, regular updates and content schedules should be established, ensuring monthly programming announcements and consistency in online presence. The engagement rate among the 5 million Facebook followers remains a challenge, as many followers do not actively interact with posts. Frequent posts, interactive updates, and community feedback solicitation are essential for overcoming this issue. Notably, two high-quality video recordings featuring valued messages from physicians demonstrated a strong positive reception, highlighting the importance of well-edited, visually appealing, and engaging content.

Additionally, paid advertisements should be considered to boost visibility and attract new audiences. Combining this with strategic partnerships with digital content creators and leveraging other platforms, such as Instagram and YouTube, could diversify outreach efforts. By investing in these areas, the Nallur Drama Nights program can improve its sustainability and establish a more robust presence in the community, ensuring stable growth and lasting impact for its theatre business.

To maintain consistent attendance, the organizers could analyze the factors contributing to peaks (such as July 20th and October 2nd) and replicate those strategies. Efforts should focus on understanding the reasons behind audience drop-offs in August and September and addressing those challenges, such as improving content appeal or enhancing promotional activities.

STEADY STATE PROJECTIONS

STEADY STATE RUNNING COSTS (in 2 years)

Category	Item	Cost	Total
Income	Ticket sales	50,000	+50,000
Expenses	Honorariums	39,000	-50,000
	Venue	10,000	
	Supplies	1,000	
TOTAL			0

- Target 250 ticket sales/event at Rs. 200/ticket on a regular basis
- Pay skilled artists and facilitators fairly at Rs. 3,000/event + refreshments + make -up
- Venue maintenance and utility costs
- To keep costs within a Rs. 50,000 limit per show, we seek grant funding to cover capital costs that will reduce our rental expenditure

CAPITAL INVESTMENT NEEDS

Category	Item	Unit cost	No.	Total
Content	New plays	75,000	10	750,000
Marketing	Banners	7,000	10	70,000
	Payments (school Visit)	3,500	10	35,000.00
	Megaphone	30,000	1	30,000
Equipment	Sound	90,000	1	90,000
	Lighting	100,000	1	100,000
	Catering	15,000	1	15,000
	Chairs	2,200	100	220,000
TOTAL				1,275,000

- Maintain regular audience interest by producing 10 new plays (rehearsals, costumes, props)
- Decrease rental costs by repairing existing equipment and purchasing additional items
- Increase audience capacity by purchasing chairs (theatre has 150 chairs)

Figure 6: Steady state projection

The steady-state projections (Figure 6) are aimed at achieving financial and operational stability over a two-year period while ensuring consistent audience engagement and sustainable growth in theatre activities. This plan outlines both running costs and capital investment needs:

The theatre business plan provides a detailed roadmap for achieving operational sustainability and long-term growth. Steady-state running costs project balanced financial management, with income from ticket sales matching the necessary expenses for artist compensation, venue maintenance, and operational supplies. Specifically, ticket sales aim to generate Rs. 50,000 per event by selling 250 tickets at Rs. 200 each, while Rs. 39,000 per event is allocated for paying skilled artists and facilitators, including refreshments and make-up. Venue maintenance and utility costs are budgeted at Rs. 10,000, with an additional Rs. 1,000 allocated for operational supplies, resulting in a break-even scenario that ensures ongoing operations without financial strain.

To address growth and audience engagement, capital investments totaling Rs. 1,275,000 are planned. The majority of this funding, Rs. 750,000, is designated for the production of 10 new plays, covering rehearsal costs, costumes, and props to maintain audience interest and diversify the theatre's offerings. Marketing investments, including Rs. 70,000 for banners and Rs. 35,000 for school visits, aim to enhance visibility and ticket sales. Significant equipment upgrades are planned, such as Rs. 30,000 for a megaphone, Rs. 90,000 for a sound system, Rs. 100,000 for lighting equipment, Rs. 15,000 for catering services, and Rs. 220,000 for additional chairs to increase seating capacity from the current 150 chairs. These investments not only improve operational efficiency but also reduce recurring rental costs in the long term.

The plan incorporates strategic initiatives to grow the audience base and enhance cost efficiency. The production of diverse new plays and marketing efforts will keep the audience engaged while reaching new demographics. Pursuing grant funding to cover capital expenditures will limit operational costs to Rs. 50,000 per event, mitigating financial risks. Operational enhancements, such as consistent social media engagement and investing in seating and sound systems, aim to improve audience experience, ensuring satisfaction and repeat attendance.

This comprehensive strategy combines immediate operational management with forward-looking investments, fostering both sustainability and growth. By prioritizing quality cultural experiences and efficient resource management, the theatre is positioned to thrive and deliver significant cultural value to its community.

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Attitudes and Awareness of Teachers of English Towards Sri Lankan English (A Study Based on Mawathagama Division of Kurunegala District)

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Abstract

This study explores the nexus between teacher insights, and structural validation of Sri Lankan English (SLE) in determining, social identity, and the pursuit of endonormization (linguistic authority) in English Language Teaching. Drawing upon a multidimensional description, the inquiry reflects on three distinct features of SLE—phonology, morphology and syntax—and the attitudinal orientations which inform their authentic application. The study combines online questionnaires and diagnostic audio recordings from twenty English teachers to investigate the relationship between self-reported and actual language use. The findings indicate a discrepancy regarding self-perceived adherence to Standard British or American English as exclusive models, despite aural and structural analysis portraying the pervasive presence of SLE in their use. In addition, a perpetual negative stance against SLE is evident, in light of the inadequate awareness regarding detection of essential SLE features among ELT instructors. For the validation of SLE, a high-level intervention in language planning is necessary, along with the provision of formal documentation to empower teachers on essential SLE use. In recognizing SLE as a legitimate variety, the education system can break the "monopoly" of the Standard English model and opt for a model of English language that is more representative of the Sri Lankan people.

Keywords: English Language Teaching (ELT), Morphology, Phonology, Sri Lankan English (SLE), Syntax.

1. Introduction

1.1. Research background and its current implications

The diverse topology of English Language Teaching in post-colonial settings is quickly turning into an authentic variance between received negative criticisms and the emergent authority of localized varieties. In Sri Lanka this tension is particularly pronounced since the field of education attempts to reconcile a phenomenon like SLE, which started out as socio-linguistic phenomena into a possible pedagogic model. This inquiry provides a comprehensive analysis of the attitudes and awareness of English teachers within the Mawathagama Division toward the distinct features of the Sri Lankan variety, evaluating the structural integrity of this dialect through the characteristics of phonology, morphology, and syntax. Hence the analysis demonstrates that a profound cognitive conflict existing between teachers' self-perceived linguistic identity and their actual performance. There is a growing recognition of the need for progressive standards that reflect the cultural and linguistic authenticity of the Sri Lankan context.

The historical flight of the English language in Sri Lanka bears witness to the enduring impact of colonial linguistic hegemony and its subsequent accommodation within a dynamic indigenous milieu. Providing a precise explanation of English as it is used and spoken in Sri Lanka today is indeed a striving endeavor because there are so many complexities in relation to speakers, status, functions, dialectal variations, recognition, and acceptance. English was introduced to the island when the British East India Company annexed the coastal Provinces in 1796, with a gradual establishment of linguistic hierarchy accompanying imperial expansion. By 1802, English was promoted as the sole official language, serving as the main medium for administration, education, and religion, setting up in turn the base for anglicized elite in Ceylon who followed British linguistic and social norms.

After gaining independence, in 1948 the subsequent government responded most popular demand and ousted English while having the expectation of promoting vernacular languages. The height of this attempt was the Sinhala only policy in 1956. Thus it leads to denigration of English language as well as a massive exodus of First Language (L1) speakers of English in Sri Lanka. Then the noteworthy policy promoted English language to the status of a link language by the 13th amendment to the constitution in 1987. However English was adapted according to its new context, needs of the speakers while reaching into many domains such as administration, education, aviation, navigation, mass media, trade and commerce etc. Meanwhile the differences in phonological, morphological and syntactic features of this new version paved the way to blossom up as a home grown variety of English in Sri Lanka. In fact it had both features obtained from donor languages; Standard British English (SBE) and vernacular languages.

The current issue is how this new variety can gain its acceptability in terms of pedagogical purposes in the field of Sri Lankan Education system. The dilemma of English teachers and educators is captured

through the questions raised with the initiatives taken to introduce SLE in to the system. The questions indicating "Do you accept SLE in exam papers?" can be eliminated by having a common platform to introduce Standard Sri Lankan English with its own patterns of accentuation, pronunciation and diction.

This study serves both as a critical evaluation and an attitudinal survey to investigate on awareness and attitudes on validating features of SLE. Since it has been researched and documented extensively by local academics from English Language Teaching (ELT) departments of the universities. But it has still not been recognized and legitimized by the country's English Teaching Curriculum which has preferred to keep SBE as perfect model for teaching English. This is most obvious as many ELT practitioners venerate Received Pronunciation (RP) in teaching pronunciation. While most respected speakers of English in the country follow the intelligible speech accents in SLE avoiding the out dated elocution accent which seems to be unnatural is of limited purpose and function in Sri Lanka. However it is still continues to make an appearance in schools on stage during English Day concerts and recitations. Therefore with these conditions prevalent in the field of English Teaching it is intended to transfer the awareness on SLE as a legitimate, full –fledged variety with its own phonology.

2. Literature Review

2.1. World Englishes

According to sociolinguistic profile of English in the world, SLE is located in the outer circle of world Englishes.
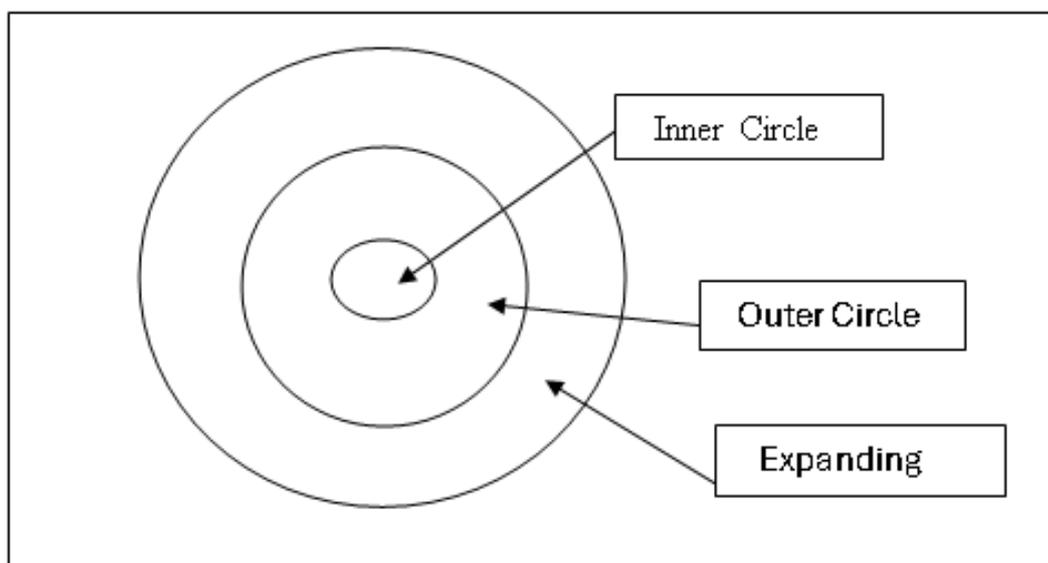
Figure 1: Sociolinguistic profile of English in the world – Kachru (1992)

The three concentric circles depict;

- Inner circle - The traditional and cultural linguistic bases of English (Britain, USA, Canada, Australia, New Zealand)
- Outer circle - Institutionalized non –native varieties (Sri Lanka, India, Pakistan, Kenya, Bangladesh, Ghana, Zambia, Nigeria, Singapore, Malaysia, Philippines)
- Expanding Circle - No official status, used in limited contexts. (China, Spain, USSSR, Indonesia, Japan, Korea, Taiwan, Japan, Nepal, Saudi Arabia, Israel, etc.)

2.2. The status of Sri Lankan English

Defining the Sri Lankan variety require a synthesis of sociolinguistic reality and academic description. The emergence of SLE is the direct result of contact situations between English and the indigenous languages of the country. Habitual users are typically bilingual, often representing the urban middle class, although the variety has saturated all ethnic groups and socioeconomic strata. Scholars offer varied definitions that highlight different aspects of the variety:

- Kandiah (1981) emphasizes the bilingual and westernized identity of the speakers.
- Gunasekara (2005) refers to the variety used among the elite class of Sri Lanka as "Standard Sri Lankan English" (SSLE).
- Meyler (2007) defines it as the language of those who speak English as a first language or who are bilingual in English and Sinhala or Tamil.

However, it is important to differentiate SLE from the "Singlish" which is an uncomplimentary term associated with non-standard or transitional code-mixing. SLE, on the other hand, is a proper variety with a set of full-fledged phonological, morphological, and syntactic patterns. According to Pathirana (2016), lexical borrowing of terms from the Sinhala and Tamil languages was recorded dating back to as early as the year 1681. This is indicative of the long linguistic pressure. Nevertheless, it is a "lingual anarchy" language for some but a "socio-linguistic reality" for others, giving rise to a split view among the academic and professional circles. The uniqueness exhibited in SLE is present at every level of linguistics analysis. These are not errors but adaptations to the communicative environment which are systematic in Sri Lankan contexts.

2.3. Attitudes towards Other Varieties of English

The attitudes towards English extremely vary from country to country specially depending on the three circles of World Englishes as stated above. In countries which fit into the Outer circle, learning English is considered as a benefit and rather a necessity to receive a prominent place and even in habitual

actions. However, when considering a country that belongs to the Expanding Circle, they do not pay much consideration to learn English because it's a foreign language and these countries do have additional second languages to learn. With regard to a country such as Italy which belongs to the Expanding Circle, they always have a tendency to learn a language such as Spanish or French, nevertheless the students pay little attention to learn English. For them, English is required only for global communication principles. To understand the natural evolution process of SLE, the study uses the Dynamic Model of the evolution of New Englishes put forward by Schneider (2007). This model identifies strict guidelines of five stages, namely: foundation, exonormian stabilization, nativization, endonormian stabilization, and differentiation. The stage of Sri Lankan English is such that it is in a developmental stage where it is passing from the nativization stage, characterized by large-scale structural borrowing, phonological creativity, to the stage of endonormian stabilization, where the local English is accepted. But this developmental stage is marred by "complaint traditions" and "stigma of non-native accents".

The study also focuses on the ABC Attitude Model, which will be used to interpret the complexity of teacher attitudes. Furthermore, the study concerns the ABC Attitude Model of Rosenberg and Hovland (1960) to analyze the complex nature of teacher perspectives. This model deconstructs attitudes into three components:

1. Affective: Emotional reactions towards SLE, such as pride, shame, or anxiety.
2. Behavioral: The actual linguistic performance and the tendency to recommend SLE to students.
3. Cognitive: Beliefs about the legitimacy, correctness, and global utility of the Sri Lankan variety.

The relationship between these factors is significant in understanding why teachers may cognitively accept SLE but affectively reject it in high-stakes pedagogical contexts.

2.4. Some Characteristics of Sri Lankan English

Studies about Sri Lankan English compiled by different veteran academics in this field emphasize a number of characteristics of Sri Lankan English and provide firm verification that it does constitute a distinct variety of English. Both segmental and supra segmental variations in home grown varieties reflect the uniqueness in SLE. In terms of Supra segmental issues it also affects the variations in pronunciation of the speaker. Due to these variations there are clearly identified segmental variations in SLE in comparison to SBE. However in this study the main focus is laid upon segmental issues in examining dialect variations.

2.4.1. Phonological Divergence and aural realization

Phonology is the most immediate marker of the Sri Lankan variety, largely influenced by the sound systems of Sinhala and Tamil, which are syllable-timed languages, unlike the stress-timed Standard British English. This fundamental rhythmic difference leads to several diagnostic features in SLE speech patterns.

Phonological Feature	Standard British English (SBE)	Sri Lankan English (SLE)
Diphthong /eɪ/ (e.g., *face*)	Diphthongal /*feɪs*/	Long Monophthong /*fe:s*/
Diphthong /əʊ/ (e.g., *note*)	Diphthongal /*nəʊt*/	Long Monophthong /*no:t*/
Final syllable schwa + stop	/*bɪskɪt*/	/*bɪskət*/ (retroflex stop)
Palatal fricative (e.g., *leisure*)	Voiced /ˈ*leʒə*/	Voiceless /ˈ*leʃə*/
Alveolar fricative (e.g., *busy*)	Voiced /ˈ*bɪzi*/	Voiceless /ˈ*bɪsi*/
Dental fricatives (e.g., *this, thick*)	/ð/, /θ/	Dental plosives /d̪/, /t̪/

Table 1 Phonological variation between SBE and SLE

The use of monophthongs instead of diphthongs is one of the more prominent characteristics of SSLE, even as natural language suggests the slightest degree of diphthongization in certain pre-pausal positions. SLE typically lacks syllabic consonants (as in the second syllable of little), with a non-optional schwa often being present.

2.4.2. Morphological Productivity and Lexical Synthesis

The morphology of SLE is characterized by high productivity in word-formation processes that serve to augment the lexicon according to local cultural needs. These processes include direct borrowing, compounding, and semantic shift. Compounding is a particularly productive process, often mixing Sinhala/Tamil and English elements or creating new English-only compounds that reflect local logic. Acronyms and clipping are also prevalent in contemporary Sri Lankan newspaper language, contributing to the variety's evolution as a distinctive standard.

Morphological Process	Examples in Sri Lankan English	Sociolinguistic Context/Implication
Direct Borrowing	*Konde, kiribath, aiya, poya*	Fills lexical gaps for indigenous concepts /kinship terms.
Compounding	*Funeral house, wedding house, cousin brother*	Influenced by local language structures to specify relationships.
Semantic Change	*Homecoming, flower girl, devilled*	English words acquiring new, localized meanings.
Affixation	*Karapoththas* (Karapoththa + *-s*)	Applying English inflectional rules to borrowed stems.

Table 2 Morphological processes embedded in SLE

2.4.3. Syntactic and Structural Deviations

The syntax of SLE reflects the influence of local language word order and colloquial speech patterns, often diverging from the subject-verb-object structures typical of SBE. These features are more prominent in spoken form than in the written variety.

- Topicalization: The topic sentence itself is moved forward in emphasis. (Example: "A really nice day is today.")
- Pronoun Deletion: Influenced by colloquial Sinhala question formation (e.g., "so how? Passed?").
- Prepositions Overuse: Such features include "sit for the exam" or "cope up with" and are commonly used by the SLE speakers in addition to being redundant in the SBE.
- Double Comparatives: The rising trend including "more better," commonly labeled as incorrect in examination questions, is frequently used in broadcast media.
- Invariant Tags: The use of "no?" or "isn't it?" regardless of the preceding clause's verb or tense.

While many of these features are viewed as errors by conventional educators, they constitute the foundation of the "pluricentric" reality of English in Sri Lanka, facilitating communicative efficiency within the local context in different domains.

2.5. Sri Lankan English and English Language Teaching

It is still surprising to state that some of the Sri Lankans except sociolinguists and the few personnel from the field of education are not aware about the thing called Sri Lankan English. Therefore it has become controversial issue in the field of education to gain acceptance amidst the downright resistance

in certain areas to the idea that SLE deserves to be recognized as a distinguished variety in teaching English in the local classrooms. The availability of classroom application of SLE has to be studied through the awareness and acceptance of the teachers of English as they are the ones who are mainly responsible of disseminating English Education in the country. In this regard, most decision makers of English education were in ordinary accord that SLE should be the pedagogical model to promote English proficiency among Sri Lankan students.

3. Methodology

3.1. Systematic Investigatory Framework

This study originated with an analysis of attitudes and awareness towards Sri Lankan English among the teachers of English and the study falls within the purview of descriptive methodology. Therefore questionnaire method was incorporated to generate the real issues in convincing teachers to validate features of SLE in classroom contexts. The questionnaire provided have been used to generate an analysis under four genres: morphological, phonological, syntactical and attitudinal perception of the research sample.

Figure 2 Correlation between Dependent and Independent variable

The use of SLE in English Language Teaching

- The national level guideline to provide acceptance in the use of SLE.
- The assurance provision for marking and evaluation in terms of pedagogical purposes.
- The attitudes and awareness in validating SLE features in language teaching.
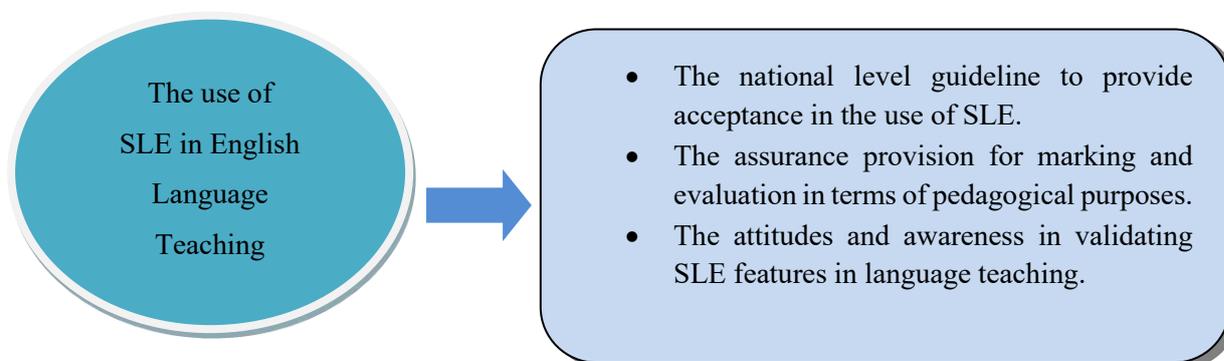
Figure 3 Operationalization framework of the researc

Independent variable	Dimensions

The attitudes and awareness of teachers of English in validating features of SLE in language teaching

→

- **Attitudes regarding SLE**
- **Morphological awareness**
- **Phonological awareness**
- **Syntactical awareness**
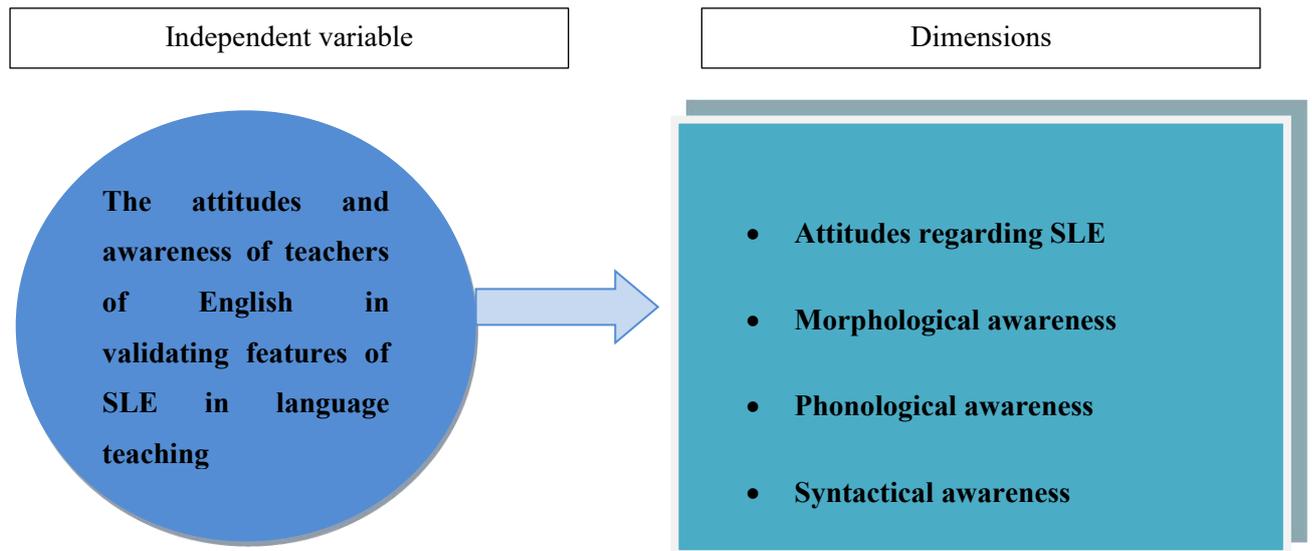
The following dimensions highlight the indicators in the questionnaire (Question 3 to 15). The questionnaire was designed to minimize "acquiescence bias"—the tendency of participants to agree with prompts—by including objective testing components beside attitudinal scales.

Dimensions	Indicators
• **Attitudes regarding SLE**	3. Accuracy of the accents for the usage of Sri Lankan class rooms. 4. Acceptance on SLE by the teachers of English. 5. Attitudes towards SLE as a variety of English.
• **Morphological awareness**	6 Borrowings in SLE. 7. Expressions in SLE. 8. Semantic change in SLE. 9. Compounding in SLE.

- **Syntactical awareness**

10. Topicalization in SLE

11. Pronoun deletion in SLE.

12. Over use of prepositions in SLE.

13. Use of double comparatives in SLE.

14. Use of tag questions in SLE.

- **Phonological awareness**

15. The actual pronunciation of the respondent in order to determine their use of dialect.

Table 3 Operationalization framework

In terms of determining the phonological awareness of each respondent and their actual usage a test on pronunciation was administered.

3.2. Pronunciation Diagnostics

The objective of this test is to examine the phonological features of SLE used by the research sample. Hence, the test done with regard to phonology can be considered as a suitable device to conclude to which variety of English a particular user of English belongs to.

SLE phonology varies from SBE phonology in relation to many phonemes since some sounds available in SBE are not known by the Sri Lankan English users whose first language is either Sinhala or Tamil. As far as the SLE users are bilingual, "the phonology of Sinhala/Tamil has influenced SLE". Therefore, the following paragraph were given to the participants to send as audio files via e mail which were constructed to examine the selected phonemic differences between SLE and SBE under following area.

- The substitution of diphthongs /ei/ and /əʊ/ of SBE with long vowels /e: / and /o:/ in SLE.
- The use of schwa in word final syllable, followed by the voiceless retroflex stop
- Substitution of voiceless palatal fricative /ʃ/ with voiced palatal fricative /ʒ/
- Substitution of voiceless alveolar fricative /s/ with voiced alveolar fricative /z/
- Use of dental plosives /t̪/ and /d̪/ in place of the dental fricatives /Ø/ and /ð/ in SBE

> The script given to the participants
>
> I had to face them as I didn't get a note from my love for pleasure; even I sent a bucket full of roses to her. Thus I became busy in my leisure travelling in the market.

Table 4 examples in the testing tool determine the variety of English used by participants

/ei/	/əʊ/	/ʒ/	/z/	/Ø/	/ə/
face	Note	leisure pleasure	busy roses	them thus	bucket market

3.3. Participant Parameters and Demographics

To evaluate the awareness and attitudes of English teachers toward these features, a descriptive multi-dimensional analysis was conducted within the Mawathagama Division of the Kurunegala District. This region is the third most developed city in the district, with a diverse demographic outline comprising Sinhalese, Moors, and Tamils. The study involved a representative sample of twenty teachers of English, selected through purposive sampling to ensure direct involvement in validating SLE features.

Demographic Attribute	Data Summary
Majority Ethnicity	Sinhalese (82.0% of division)
First Language (L1)	Sinhala (Majority), Tamil (Minority), English (Dutch origin/rare)
Primary Education Qualifications	GCE A/L (11), Basic Degree (5), Masters (2), PhD/MPhil (1)
Teaching Medium	English as a Second Language (ESL)

Table 5 Selected Demographic attributes with the data summary

The majority of the research population is inherent in a community where English is primarily a second language, and their own linguistic history is rooted in the vernacular languages of Sri Lanka.

3.4. Ethical Governance and Participant Protection

The best ethical values should be maintained to the fullest to provide reliability to science and public trust. As per the guidelines provided by British Educational Research Association (2024), the study emphasized some important ethical perceptions.

- Informed Consent: Participants were provided with an information leaflet and consent form detailing the study's aims, risks.

- Anonymity and Confidentiality: With a consideration of how interrelated the educational community is within Kurunegala, information has been shared without establishing a direct connection with individuals or schools for the purpose of avoiding marginalization within professional circles.

- Social & Political Reflection: The study is well aware of the socio/economic connections between linguistic attitudes and the Sri Lankan social context in which "Standard" English is sometimes the only means for social upward mobility.

Data Integrity: The auditory recordings were secured, and the analysis was done while being mindful of the objectivity in the phonetic identification scoring systems.

4. Data Presentation and Analysis

4.1. The Disconnect Between Perception and Reality

One of the most significant findings is the overwhelming discrepancy between how teachers perceive their own speech and their actual acoustic output.

Linguistic Variety	Self-Reported Usage (%)	Objective usage (Pronunciation Test)
Standard British English (SBE)	60%	~10%
American English (AE)	20%	~0%
Sri Lankan English (SLE)	10%	~90%
Indian English	10%	~0%

Table 6 The results obtained through aural diagnostics

While ninety percent of the sample claimed to speak SBE, AE, or other non-Sri Lankan varieties, the pronunciation test revealed that ninety percent actually utilized the SLE long monophthongs $/e{:}/$ and $/o{:}/$. Furthermore, eighty percent of teachers utilized voiceless fricatives in place of voiced palatal and alveolar fricatives, a feature of the SLE phonological system. This suggests that while teachers adore Received Pronunciation (RP), they practic*e* a localized phonetic system without conscious awareness.

4.2. Attitudinal dispositions towards the Local Variety

Specifically the accurate accent for speaking English to be used in Sri Lankan classrooms is examined in order to find out their attitudes towards poronunciation of SLE. Here are the findings in this subject matter.

Accents of Englishes	Precentages
Standard British English	60%
American English	20%
Sri Lankan English	10%
Other (Indian English)	10%

Table 7 Accents used by the respondents

The affective component of the teachers' attitudes reveals a deep-rooted bias against SLE, often viewed through the lens of deficiency rather than variety.

Attitudinal Profile	Percentage	Core Justifications
Negative	50%	"Want to talk as a native speaker," "lacks perfection," "marginalized if we speak it."
Positive	40%	"Unique flavor," "sense of safety," "Sri Lankaness."
Balanced/Functional	10%	"Purpose of communication matters more than the variety."

Table 8 Attitudinal analysis of the research sample

The majority of teachers (60%) believe that SLE is not suitable for classroom context, often recommending that students avoid it in favor of British or American variety. This conflict is closely connected with a "sense of professional responsibility" to train students in what they perceive as "correct" language for international utilization. There is a common belief that SLE is "grammatically wrong" and will not be accepted outside Sri Lanka, an insight that fosters a "complaint tradition" towards the local variety.

4.3. Meta Linguistic Awareness of SLE Features

Awareness shown by the teachers varies respecting the particular morphological and syntactic elements of the variety which is subconscious to them.

- Morphological Awareness: The use rate of SLE lexical expressions ; "aiyo" or "sin men", meaning changes ; "homecoming", and compounding ; "funeral house" is quite high at 70-

80%. The meta-linguistic awareness to appreciate the usage of such features in Singaporean English as valid variety is lacking in the teachers. They instead regard them as "Singlish"

- Syntactical Awareness: Syntactical awareness relates to grammatical knowledge and is more suitable to SBE standards and leads to the dismissal of SLE features such as double comparatives and topicalization as "ungrammatical." However, educators extensively use pronoun deletion and redundancy in prepositions without labeling them as SLE idiosyncrasies.

In summary, teachers' attitudes are characterized by a "limited awareness concerning the appropriate recognition of vocabulary of the three varieties" (SBE, AE, and SLE). The implication here would be that their disaffection with SLE is not empirically grounded on a precise definition of "brokenness" but a rather fuzzy focus on its limitations

5. Discussion

5.1. Linguistic Capital and the Stigma of the "Local "variety

The evidence emerging from the research reveals the important phase in the evolution of Sri Lankan English. The ambivalence between the teachers' attitude and linguistic reality represents the interaction between linguistic capital, social identity, and the struggle for endonormization(linguistic authority).The SBE preference shown by teachers is derived from Pierre Bourdieu's concept of "linguistic capital" whereby standard forms come to signify prestige socioeconomic groups, thereby regarding 'native-like' fluency as a criterion of professional competency. In the Sri Lankan context, SBE is, therefore, the objective of English language education, considering it as an empowering tool. This is demonstrated through the creation of a situation termed "linguistic shame" wherein teachers experience embarrassment as their own speech fails to approximate to RP standards. "Not-pot English" (derogatory for SLE) is therefore a social tool utilized to mock English spoken by groups perceived as inferior. Teachers in the sample study who expressed that they would be "marginalized" if they spoke SLE are reacting to this persistent climate of accentism.

5.2. The Role of Codification in Validation

A major theme emerging from the data is the "lack of codification" as a primary driver of teacher resistance. Unlike British or American varieties, SLE lacks suitably available pedagogical resources, making it difficult for teachers to verify "correct" usage. The absence of a "Standard SLE" dictionary or grammar in the classroom, forces teachers to rely on exonormative models to avoid being seen as "incompetent". As Schneider (2007) states, endonormative stabilization requires the "residual codification" of the variety through literary writing and grammatical description. While scholars such as Gunasekara and Meyler have made significant contributions to this effort, their work has yet to be

institutionalized in the national school curriculum. The "English Our Way" program's discontinuation further illustrates the difficulty of implementing SLE without a robust, state-approved platform for standardization.

5.3. Morphological innovation and Semantic shifts in SLE

Compounding is a productive process in SLE with borrowings of Compounds from Sinhala or Tamil. Meanwhile there are forming of compounds with two English words but still it has the total influence of First language to express the ideas. Unlike the Sinhala/Sinhala+Sinhala/Tamil or Sinhala/Tamil+English, compounding of two English terms reflect the influence on Sinhala or Tamil. As in the case of funeral house, wedding house, cousin brother the aforementioned influence is highly apparent. According to the research findings this feature of SLE has came into existence in the field of education as majority of the research sample has selected the term 'green colour' rather than the direct use of the word 'green' to denote the colours. All languages undergo change and English is no exemption. Some of the major trends of language change in terms of SLE morphology. In fact English word takes on a different meaning although the word retained the same. According to the findings it is notable the terms 'homecoming', 'devilled' are highly used term as in the case of flower girl which is used to describe the little girl in bridal retinue whereas the actual English term is not associated with as such. The findings in this research also suggest that the use of terms with semantic shift, use of culture specific loan words in different scenario is highly evident in their everyday usage among the teachers engaged in Education field when they communicate with the students.

5.4. Pluricentrism and Assessment Literacy

The study highlights the necessity of transitioning from a monocentic to a "pluricentric" approach to language assessment. Pluricentrism acknowledges that a single language can have multiple, equally valid national norms. In the case of Sri Lanka, this means recognizing SSLE as a legitimate target for English language proficiency at both school and tertiary levels.

Evidence from tertiary educators suggests a growing openness to "ownership" of SLE, with some arguing that it is "unrealistic and unfair" to test students based on alien standards. However, this openness is often domain-specific; while SLE might be acceptable for "English for General Purposes," teachers remain more rigid in "English for Academic Purposes," where they believe international standards should prevail. This reflects the "changing nature of the teachers' attitudes" influenced by situational and interactional structures.

6. Conclusion

The findings from this inquiry demand several targeted interventions to align Sri Lankan education system with the socio-linguistic reality of the twenty-first century.

6.1. Strategic Recommendations and Future Outlook

The transition to validating SLE features must be supported at the national level through the Department of English of the National Institute of Education (NIE).

- Adoption of Pluricentric Models: The curriculum should shift the emphasis definitely away from the "perfect model" approach in RP to the SSLE model of speech and writing.
- Formal Codification: The state must facilitate the corpus studies in the compilation of dictionaries, grammars, and reference resources for SLE to enable teachers to be equipped with resources for education.
- Refining Level Descriptors: Level descriptors pertaining to language skills must be constructed with a local and global perspective so as to include "Sri Lankaness" that meet communicative skills without being considered as errors. Thus teaching speaking needs spontaneous speech as it inevitably needs SLE. Therefore acceptance of SLE is a necessity as to promote effective speaking among the students which supports the learner to use SLE vocabulary and syntactic features. Any description of their familiar surroundings, families, the food and beverages, clothing, cultural events, flora and fauna require SLE words to convey meanings with specificity and accuracy.

6.2. Enhancing Teacher perceptions

The affective components of teachers' attitudes reveal a prejudgment rooted in a preference for a deficiency pattern over an SLE pattern. To enable teachers to shift effectively from exonormative stabilization, or "linguistic shame," to endonormative stabilization, or "ownership," as SLE, is critical for its successful integration.

- Professional Development: In service and Pre service trainings for teachers need to address increasing their awareness of the diversity of English and the unique structural properties of SLE.
- Developing Assessment Literacy: It is necessary to impart teachers with "ELF-aware" (English as a Lingua Franca) assessment skills, where the primes are communicative competence .
- Fostering Reflective Practice: Supporting teachers in being "reflective practitioners" in questioning personal biases and examining the influence of their linguistic views against the background of affecting students' identity formation in knowledge access.

6.3. Expanding the Research Horizon

Further studies are required to deepen our perceptive of the evolving Sri Lankan variety and its pedagogical applications.

- Generational and Regional Variations: Future research should investigate the phonological changes occurring in younger generations and the specific variations available within SLE itself, such as Jaffna English or other regional dialects.
- Longitudinal Studies on Attitudes: Monitoring the impact of SLE-informed pedagogies on student motivation and learning outcomes can provide the empirical support needed for sustained policy change.
- Influence of Digital Media: Analyzing how internet memes, social media, and online forums are accelerating the nativization and acceptance of SLE within the virtual sphere.

The journey towards the validation of Sri Lankan English is not merely a linguistic endeavor but a socio-political one. By recognizing SLE as a legitimate and full-fledged variety, the Sri Lankan education system can move beyond the "stranglehold" of outdated standards and embrace a model of English that is truly representative of its people. This shift will require the collective efforts of curriculum designers, teacher educators, and practitioners to create a common platform where the "Sri Lankaness" of the language is celebrated rather than suppressed.

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Appendix - I

<u>**Questionnaire on Sri Lankan English**</u>

The main focus of this questionnaire is to collect data for a research work of a postgraduate to gain information on attitudes and awareness of teachers of English towards authenticating features of Sri Lankan English (SLE).Therefore I would be much obliged if you are able to respond the following 15 questions willingly. Your active and voluntary participation will be highly appreciated if you can provide true information on this subject matter.

Please underline your responses from question 1 to 14.

1. What is your mother tongue?

a. English   b. Sinhala   c.Tamil

2. Which variety of English do you speak when teaching your students? a. American English

              b.British English

c.Sri Lankan English   e.Other variety

If the answer is "other" please mention the variety…………………………………

3. Which accent do you think is accurate for use in Sri Lankan classrooms?

a. The American accent

b.The British accent

c.The Sri Lankan accent

4. Do you recommend the use of Sri Lankan English for your students?

a. Yes   b. No

5. What is your attitude towards Standard Sri Lankan English? If you have any other to state mention here

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

……………………

a. A kind of an indigenous variety with its unique features of morphology, syntactic and phonology.

b. A kind of broken variety which has to be degraded in the Sri Lankan classrooms at all costs.

c.It is not the variety that it matters, but the ability to express the ideas clearly.

6. Which would be your most frequently used term to name the following traditional food?

I ate a large plate of ………………………….. for breakfast.

Kiribath   Milk rice

7. Do you use these expressions when speaking to your students? Yes /No

Expressions: **(aww/ aiyo/ apoi/ ane/ sin men)**

8. Do you use these terms in your lessons? Yes /No

 Homecoming (The reception hosted by the bridegroom's parents after the wedding)

 Devilled (Stir fried with chillies, onions and spices)

9. Out of the following ways, which would you use when you have to introduce colours to your students?

a. Green   b. Green colour
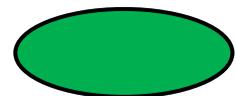
10. Among the following, which would you use in the classrooms?

a. A really nice day is today   b. Today is a really nice day

11. When talking to students, what would you prefer out of the following?

    a. passed the exam?   b. Did you pass the exam?

12. **Is the following example correct or wrong?**

    ex: He can't cope up with the situation.

    a. Correct   b.Wrong

13. Is the following example correct or wrong?

    ex: I feel much better now.

    a. Correct   b.Wrong

14. Out of the given utterances, what would you prefer to use with your students in the classrooms?

    a. You can remember the previous lesson I taught yesterday. Can't you?

    b. You can remember the previous lesson I taught yesterday no?

15. Test on pronunciation.

Please be kind enough to pronounce the given paragraph and send the recorded audio files to evesheni@ gmail.com, along with this questionnaire.

> I had to face the truth as I didn't get a note from my love for pleasure; even I sent a bucket full of roses to her. Thus I became busy within my leisure travelling in the market.

Thanks for responding.

Factors Influencing Consumers' Purchase Intentions toward Green Products in Sri Lanka's Food and Beverage Industry: An Extended Theory of Planned Behavior Approach

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Abstract

Green purchasing is one of the most promising ways of minimizing the harmful effects towards the environment. Therefore, the study aims to assess the impact of key psychological drivers on consumers' purchase intention of green products within the Sri Lankan food and beverage industry using the extended Theory of Planned Behavior (TPB). There are a few researches on how attitudes, subjective norms, perceived behavior control, environmental consciousness, and health consciousness jointly influence green product purchase intention in Sri Lanka. A standard online questionnaire was distributed among the sample which was chosen by employing the purposive sampling technique. Data analysis found that environmental consciousness, health consciousness and attitudes are the key drivers of determining consumers' green products purchase intention. Moreover, environmental consciousness and health consciousness were found to have greater effects on green purchase intention than attitudes. Food and beverage managers can pay attention to improvement of taste quality, freshness and trust of green products. They could also strengthen organic labeling, eco-certifications and food safety standards to reinforce consumers' green purchase intention. Policy makers should provide necessary information to customers about sustainable actions and sustainable behavior which leads to increase green products purchases rather than non-green products.

Keywords: Attitudes, environmental consciousness, green purchasing, health consciousness, theory of planned behaviour.

1. Introduction

Green consumption was one of the most popular topics world-wide since 1990 (Wang, Pham, & Dang, 2020). Tendency of eco- friendly behavior and green consumerism has become widely discussed topic in the past decade. However, as the consumers' consumption increases, it leads to growing up the economy rapidly, and at the same time it leads to the environmental degradation. Furthermore, the environment has also massively changed due to other factors such as climate change, air pollution and waste generation (Maichum, Parichatnon, & Peng, 2016). With that, consumers' behavioral aspects and consumption patterns have also been changed, which became a major reason for exploring the consumers' behavioral intention towards eco-friendly products. Nowadays, green purchasing and environmental practices have been more popular and widely recognized (Choi & Johnson, 2019). Consumers will purchase green products if they can satisfy with the safety purchases, good quality and the convenience as they always analyse the product values and incorporate their judgments into the purchase decision process (Maichum et al., 2016). It leads to increase the demand for environmentally friendly products such as recyclable products and organic food items.

Sri Lanka is one of the top biodiversity areas in the Asian region. However, intensive human activities and climate change created serious environmental issues recently (Suraweera, Gallo, Vacek, & Baláš, 2024). Compared to other South Asian countries, Sri Lanka can be seen as a small country. Sri Lankans have its own natural resources, pure natural capital, unique culture and natural beauty (Gunatilleke, 2015). Although Sri Lanka consists of a lot of resources, there is raising a question about Sri Lanka's environmental quality. When considering developed countries and other newly industrialized countries, Sri Lanka is far from those countries with high level of pollution, improper ways of minimizing pollution & recycling, lack of environmentally friendly products and etc. (Samarasinghe, 2012). Moreover, Sri Lankan government has imposed several environmental laws and policies, but the enforcement seems often weak and monitoring mechanisms are also very limited (Ranasinghe, 2025). Hence, environmental problems continue to increase that prevents the long-term sustainability.

The food and beverage industry can be identified as one of the most significant and fastest growing industries in Sri Lanka (Kulathunga, Laknath, & Abeywickrama, 2024). This industry provides variety of goods including fruits, vegetables, juices and other products such as animal products, cereal preparations, semi-cooked foods and bakery items. The demand for eco-friendly food items has been rapidly increasing, so that sustainable practices and promotions need to be adopted by marketers, because it enables consumers' purchase intention. Furthermore, the food and beverage industry is considered as one of the leading industries that highly contributes to the water pollution and negative environmental impact (Junsheng et al., 2020). Therefore, food and beverage companies should adopt sustainable practices to protect the environment that ensures organizational long-term sustainability (Rambukwella, Priyadarshana, & Vidanapathirana, 2015).

Consumers do engage with green products when businesses incorporate green practices into their production which generates less effects towards the environment. Moreover, consumers tend to purchase green products if they feel a satisfaction with the safety purchases, good quality and the convenience as they widely analyse product values and incorporate their judgments into purchase intention towards products (Maichum et al., 2016). However, Sri Lankan consumers show different behaviors with changing attitudes towards organic products and their knowledge in organic foods are also considerably mixed up (Jayawardena & Wijesundara, 2022). The main barriers for purchasing organic products in Sri Lanka are the premium prices of organic foods and limited availability of eco-friendly raw materials and poor supply chain functions which have made these products more unpopular within Sri Lankan context. Moreover, some people may be reluctant to protect the environment because they think purchasing green products is costlier than other essential goods (Vithanage & Adhikari, 2025). Another barrier for green purchasing is the product availability in the competitive market because consumers find it very difficult to see these products widely (Vithanage & Adhikari, 2025). Even though consumers are interested in buying green items and willing to pay more for certain goods, unavailability of green products may lead them to use other products regularly. It could create a gap between consumers' attitudes and behaviors.

Nevertheless, consumers tend to purchase eco-friendly products that cause little or no harm to the environment, and they become sensitive to the environment due to their environmental consciousness (Vithanage & Adhikari, 2025; Mishal, Dubey, & Luo, 2017). Moreover, the world community faces crucial environmental challenges such as pollution and improper waste disposal, so that people put more efforts in protecting the natural environment. Some previous researchers found that environmental consciousness positively associates with purchase intention towards green products (Wang et al., 2020; Hojnik, Ruzzier, Konec, & Ruzzier, 2019; Ariffin, Yusof, Putit, & Shah, 2016;). Further stated that environmentally conscious consumers have a greater possibility to purchase green products, and the higher level of environmental consciousness leads customers to take more greener decisions. Consumers' willingness to pay more for green items will lead organizations to produce more green products, and it helps to achieve their sustainability goals (Vithanage & Adhikari, 2025).

Consumers who have a higher level of health consciousness are more concentrated on their healthy behavior (Meireles, 2018b). They always take preventive actions to maintain a good health condition. Irianto (2015) mentioned that the main reasons for purchasing organic products are the health consciousness and environmental preservation because organic products are considered as healthier, safer and eco-friendly more than other conventional products. Consumers do mostly consider their health for a long, therefore they prefer to have utilitarian aspects more than hedonic aspects. Hence, they would engage in some activities for promoting a healthy life (Matić & Puh, 2015). Furthermore, health consciousness consumers tend to react healthier goods options rather than other general people.

Hence, health consciousness is considered as one of the main important predictors, which determines the consumers' purchasing intention of green products.

The current study uses the "Theory of Planned Behavior" (TPB) to measure consumers' purchase intention of green products. In 1985, Icek Ajzen developed this theory as an extension of the "Theory of Reasoned Action" (TRA). TRA consists of three independent predictors of behavioral intentions; attitudes towards the behavior, subjective norms and perceived behavioral control. The theory further explains that behavioral intention with perceived behavior control has created the significant variance in actual behavior with a higher level of accuracy. According to Choi & Johnson (2019), TPB model's predictors can be used to analyse consumers' eco-friendly behavior. Maichum et al. (2016) found that a positive relationship between attitudes, subjective norms, perceived behavior control and consumers' purchase intention of green products in Thailand. Sreen, Purbey, and Sadarangani (2018) also indicated that three constructs in the TPB have a significant influence on green purchase intention in Indian consumers.

Although TPB model provides accurate predictors of consumers' purchase intention, there are few criticisms of the TPB model, raised by scholars about its weak predictability of the efficacy and, number of constructs is not enough to predict the certain behavior of the consumers (Tommasetti, Singer, Troisi, & Maione, 2018). Yadav and Pathak (2016) have also mentioned that certain factors are not considered in this model and pointed out the significance of adding additional variables into the TPB model. Additionally, Joshia and Rahman (2015) highlighted that some modifications need to be done in the TPB model to overcome the limitations mentioned by early scholars. Ajzen (1991) also stated that TPB model can be broadened by altering new predictors into the model, if further important determinants are considered after taking current variables into account. The researcher added environmental consciousness and health consciousness to the TPB model to measure the consumers' purchase intention of green products in addition to the prevailing constructs of the TPB model; attitudes towards the behavior, subjective norm and perceived behavioral control. Therefore, conducting a research related to the purchase intention of green products with the extended TPB model will be a valuable contribution to boost the prevailing knowledge of the green consumerism area.

However, the lacks of researches have been conducted on consumers' green purchase intention in Sri Lanka (Rathnayaka & Gunawardata, 2021). In the global context, researches related to the green purchase intention have been conducted with the theory of planned behavior on different basis such as purchase intention of green products in Thai consumers (Maichum et al., 2016), young consumers' purchasing intention towards green housing in China (Zhang, Chen, Wu, Zhang, & Song, 2018), green consumption behavior in Turkey consumers (Emekci, 2019), consumers' green purchase behavior in a developing nation; India (Yadav & Pathak, 2017). When considering the Sri Lankan context compared to global context, Sri Lanka has a very few researches on measuring the green purchase intention applying the extended TPB model (Priyanthani & Rebecca, 2025). Yadav and Pathak (2017) stated

that a few studies related to green purchase intention were carried out in developing countries compared to developed countries.

The environmental problems do increasingly affect people's lives and firms' activities in Sri Lanka, however, a very few studies discussed green issues in Sri Lankan context (Sooriyaarchchi, 2023). Especially, there is little evidence on how attitudes, subjective norms, perceived behavior control, environmental consciousness, and health consciousness jointly influence the green purchase intention in Sri Lankan food and beverage context. Thus, the current study aims to fill up the gap identified where lack of context-specific evidence on key psychological drivers of green purchase intention needed to increase green products uptake in the food and beverage industry.

This study will provide valuable insights for managers in the food and beverage industry to identify consumers' green purchase intention, and fulfill their needs by producing green products and, they will be able to take more greener decisions considering green aspects accurately. Moreover, this study's outcomes will help food and beverage managers to understand consumers' attitudes, social pressure, their behavioral control, environmental concerns and health concerns, and improve consumers' green purchase intention. Furthermore, the study will be a huge contribution for the policy makers in Sri Lanka to create new policies related to the green items for protecting the environment, and encourage consumers' green purchasing practices which lead to achieve country's sustainable development.

2. Literature Review

2.1. Green consumer behavior

Consumers purchase goods and services that they can satisfy their basic needs and improve their quality of life, while ensuring the environmental protection by choosing green products (Nguyen, Nguyen, Han, Thi, & Linh, 2023). A green consumer can be defined as "an individual that wants and knows and knows how to satisfy his or her needs in the everyday life causing as little as possible impact on the environment" (Sharma & Joshi, 2017, p. 208). A green consumer prefers to purchase environmentally friendly products which are endanger to the human health (Tekade & Sastikar, 2015). When a consumer makes a choice between two similar products, the consumer will choose eco-friendly products. Consumers want to satisfy not only their personal needs, but also, they consider society's welfare and the environment.

Green consumption behavior is a behavior that aims to minimize the negative impact of the consumption towards the environment throughout the process of purchasing, using and disposing the environmentally friendly products (Pagiaslis & Krontalis, 2014). According to TPB model (Ajzen, 1991), individual behavior can be deducted up to some extent by behavioral intention. And also, some researchers concluded that green behavioral intention significantly influence green consumption

behavior. "Green consumer behavior is the behavior of an individual who considers environmental or social issues while making purchasing or non-purchasing decisions" (Sharma & Joshi, 2017, p. 208). This is kind of a behavior which applies consumers' eco-friendly knowledge into their consumption action (Mils, 2012). Green purchase behavior is considered as a type of socially responsible behavior and it shows a sophisticated form of ethical decision-making behavior (Moisander, 2007).

2.2. Theory of planned behavior (TPB)

In 1960s, The Theory of Reasoned Action (TRA) first developed by Ajzen and Fishbein (1980) and it was expanded and revised by Ajzen (1985). TRA is the theory which examines the factors of human behavior such as beliefs, attitudes, intention and behavior (Ajzen & Fishbein, 1980). This model is highly suitable for explaining the simple behavior, but some behaviors are very much complicated to practice. As a result, Ajzen (1985) developed the "Theory of Planned Behavior" (TPB) as an extension of the TRA model. While TRA trying to predict the intentional behavior, TPB aims to predict the non-intentional behavior by adding additional predictor called "Behavioral Control" over performance of the behavior (Ajzen, 1991). TPB model consists of three predictors which leads identifying person's behavioral intention; subjective norms, attitudes and perceived behavior control (Vantamay, 2020). According to Ajzen, these three variables predict the behavioral intention with a high level of accuracy. Maichum et al. (2016) found that the intention towards eco-friendly behavior was highly predicted by attitudes towards behavior, subjective norms and perceived behavior control.

Even though most of the scholars stated that TPB model is a powerful research framework for determining the environmental- friendly behavioral intention (Zhu et al., 2020; Yadav & Pathak, 2016; Vantamay, 2016), this model still suffers from incompleteness, since consumers' choices are determined by many factors such as product characteristics, availability and purchase habits other than predictors in the TPB model (Sharma & Joshi, 2017). Joshia and Rahman (2015) highlighted that the TPB model is not suitable for describing the ethical behavior, because it does not consider the habitual buying behavior of the consumers. Yadav and Pathak (2016) mentioned that some domain certain factors are not considered in this model and pointed out the significance of adding additional variables into the TPB model. Ajzen (1991) also stated that TPB model can be broadened by altering new predictors into the model, if further important determinants are considered after taking current variables into consideration. Moreover, this theory delivers an explanation about which attitudes and beliefs determine the behavior, but not explain the process of other variables (personality) influencing other TPB model constructs. There are a few criticisms about the TPB model raised by scholars about its weak predictability of the efficacy and, number of constructs is not enough to predict the certain behavior of the consumers (Tommasetti et al., 2018).

Many scholars have extended the original TPB model by adding additional constructs; intention to adopt bicycle-sharing in China (Zhu et al., 2020), investigating young consumers' purchasing intention

of green housing in China (Zhang et al., 2018), environmental consciousness and organic food purchase intention (Wang et al., 2020), environmental education (Moyo & Masuku, 2018). Yadav and Pathak (2016) also added two additional constructs into TPB model such as environmental concern and environmental knowledge, while Chen and Hung (2016) added three constructs to predict the customers' purchase intention towards green products. Wu & Chen (2014) conducted a research with six independent variables added to the TPB model to measure the purchase intention of green products.

2.3. Purchase intention of green products (PI)

Intention is the central factor to perform the specific behavior according to the TPB model, and it is the most important predictor for the certain behavior (Ajzen, 1991). It captures the motivational factors and it influences the behavior. Ajzen further explained that, subjective norms, attitudes and perceived behavior control strongly influence the purchase intention, and there is a positive relationship between attitudes and purchase intention. Achchuthan and Velnampy (2016, p. 43) defined the green purchasing intention as "selectively choosing products with less environmental impact when purchasing goods". Therefore, they are willing to purchase green products over non-green products. Accordingly, intention is the immediate antecedent of the actual behavior. With that aspect, when people have a strong intention towards green products, it will transform to perform the actual purchase.

According to Nadhavika, Amaraweera, and Fernando (2021), individuals mostly prefer purchasing green products rather than other traditional products. Purchase intention has a greater power to influence the actual purchase of green products, and purchase intention is the predictor of the green purchasing behavior (Choi & Johnson, 2019). Accordingly, if consumers believe that their effort for a positive effect towards the environment, their purchase intension transforms into an actual behavior. Sharma and Joshi (2017) suggested that people are more concern about environmental problems and they own different environmental beliefs. People are willing to pay more for environmentally friendly products which have a less negative effect towards the environment, which is called as green purchase intention (Rizwan, Mahmood, Siddiqui, & Tahir, 2014).

2.4. Attitudes towards green products

Attitudes is one of the key determinants of individual behavior that encourages consumers to be more ethical and environmentally friendly (Hasan & varada, 2025). According to Sharma and Joshi (2017, p. 210), "the environmental attitudes of the consumers must, by definition, express their care on preserving and protecting the environment" According to this definition, positive attitudes towards the certain behavior strongly impact the intention to perform that behavior. It is a level of favorable or unfavorable evaluation of the person's behavior. When consumer attitudes towards green products are stronger, then their purchasing intention is more favorable. When a consumer responds to the objects in a consistently favorable or unfavorable manner, attitudes can be considered as the learned tendency (Ajzen, 1985). Positive attitudes always encourage consumers to purchase green products more.

Abdulsahib, Eneizan, and Alabboodi (2019) highlighted that people who are having positive attitudes toward green products have a high tendency to protect the environment than individuals who are supposed to solve the environmental problems. If consumers perceive that they could solve these problems easily, they might change their consumption behavior. Hence, positive attitudes are transforming into actual behavior. When consumers have more favorable attitudes towards the environment, they will more concern about environmental issues and eco-social benefits, then it leads to replace non-green products to green products (Cheung & To, 2019; Meireles, 2018b, p. 5). Many previous scholars have found a positive relationship between attitudes and purchase intention of green products. According to Handayani and Prayogo (2017), individuals are more willing to show their certain behavior through cost benefit analysis as consequences of actions and, attitudes are combined with the positive evaluation of their actions. Additionally, positive attitudes are the key factor that stimulates the organic products consumption and, it is also considered as a determinant of consumers' behavioral intention towards green products. Attitudes towards green products are a changing aspect, since it may be observed in different kinds of situations (Abdulsahib et al., 2019). Based on above evidence, following hypothesis can be developed.

H1: Attitudes towards green products positively affect consumers' purchase intention of green products.

2.5. Subjective norms (SN)

Subjective norms are opinions or influences of important people such as family and peers that is considered as a key factor in consumers' purchase intention (Anh, 2025). If a person believes that other people's opinions are important for the certain behavior, subjective norms are highly influenced to show their specific behavior (Emekci, 2019). Ajzen and Fishbein (1980) developed the theory of reasoned action, and stated that all individuals represent the various social groups and some of these social groups may have certain norms related to sustainable consumption, and some are having norms regarding environmentally responsible behavior or green purchasing behavior. There is a social trend that consumers are shifting to the healthier diets and taking individual responsibility towards their health (Kusumaningsih, Irianto, & Antriyandarti, 2019).

A high social interaction will encourage people to buy green products. It also changes consumers' food selection behavior which are influenced by social pressure and some other requirements (Abdulsahib et al., 2019). According to the TPB model, subjective norms are the function of beliefs (Ajzen, 1991). Subjective norm means the perceived social pressure from significant people that encourages individuals to show or not to show specific behavior (Ajzen, 1991). Social norms are one of the most important factors that changes consumers' life and encourages them to purchase green products. Furthermore, social norms have a strong relationship with nature-friendly behaviour that leads to purchase green products.

People cannot stay away from the society and become an independent person with the effect of modern society, hence, the word of mouth has become the most significant factor to influencing the pro-environmental behavior (Sweeney & Webb et al., 2014). The young generation is mostly influenced by their friends when purchasing specific products. If their friends are purchasing eco-friendly products, definitely they also do so. When it comes to corporate sector, people are influenced to consume green products through peer association and organizational culture. According to Maichum et al. (2016), people in collectivistic culture more consider environmental issues than the people in individualistic culture. Most of the people in collectivistic culture are likely to follow and take opinions from referent groups in their society. Based on above evidence, following hypothesis can be developed.

H2: Subjective norms positively affect consumers' purchase intention of green products.

2.6. Perceived behavior control (PBC)

The theory of planned behavior is differed from the theory of reasoned action with addition of perceived behavior control (Emekci, 2019). Consumers' purchase decisions are a more complicated process and it is affected by some situational factors such as perceived behavior control in addition to attitudes (Kumar, 2012). PBC can be defined as the individual's expectations about ease or difficulty in executing the certain behavior (Ajzen, 1991). Further explained, discernment of the behavioral control is the most important factor than the actual control. Moreover, both perceived behavioral control and purchasing intention directly support the actual behavior. Additionally, perceived control was able to find in theory of achievement motivation developed by Atkinson's (1964). In this theory, the most important thing was the expectancy of success. Ajzen (1991) stated that this factor is similar to the perceived behavior control and it refers as a behavioral context not as a generalized predisposition.

Perceived behavior control is reflected through factors such as past experiences, impediments and obstacle, perceived inconvenience, cost of time and resources (Choi & Johnson, 2019). Furthermore, some factors such as income, race, education and age are also significantly impacting green product purchases. As highlighted by Asif, Xuhui, Nasiri, and Ayyub (2017), abilities and perceived barriers are also influencing consumers' purchase intention, and perceived behavior control depends on these factors. Price and availability are the major barriers of purchasing organic foods. Significant control factors such as self-efficacy and availability influence consumers' food purchasing behavior (Choi & Johnson, 2019). Although attitudes are significantly associated with green purchase intention, it is not reflected the customers' willingness to pay (Manaktola & Jauhari, 2007). Based on above evidence, following hypothesis can be developed.

H3: Perceived behavior control positively affects consumers' purchase intention of green products.

2.7. Environmental consciousness (EC)

Recently, consumers are becoming more aware of environmental matters, and willing to address environmental problems, participating in eco-friendly behavior (Kim & Lee, 2023). Environmental conscious consumers refer to the consumers who are searching for environmentally friendly products which have less or no harm to the environment. People with a greater environmental consciousness will tend to protect the environment (Cheung & To, 2019). This concept is related to the individuals' psychological factors, and it leads to changing consumer behavior in the way that they support and protect the environment (Maichum et al., 2017). Environmental consciousness reflects through value judgment, individuals' recognition and belief that minimize negative effect towards the environment. When consumers concern about the environment, they show the pro-environmental behavior. As a result, they ignore plastic bags and initiate some activities such as saving energy and recycling.

Jhanji & Sarin (2018) stated that young consumers who are environmentally conscious are willing to pay more for green products. It encourages companies to produce products which have more favorable effects towards the environment. Companies can improve the environmental consciousness through emotional messages and rationalization. They can attract price premium customers and increase market share by targeting their eco-conscious needs and wants. According to Kim and Lee (2023), consumers who have a higher consciousness towards the environment have a higher propensity to buy eco-friendly products. Moreover, eco-consciousness consumers are more likely to minimize their cognitive dissonance issues by reducing inconsistent benefits than other people. This is a multidimensional aspect since it is represented a particular mental stage. There are some antecedents such as economical variable (internal factors), psychological, demographic, and cultural (external factors), media, family and political views are influencing the environmental consciousness (H'Mida, 2009). Based on above evidence, following hypothesis can be developed.

H4: Environmental consciousness positively affects consumers' purchase intention of green products.

2.8. Health consciousness (HC)

Consumers who have a higher level of health consciousness are keen to evaluate their health and seek more health information from various sources, and it impacts their food choices and the life style (Romeroa & Ladwein, 2023). Health consciousness is identified "as a measure that assesses the degree of an individual's readiness to make healthy choices and to maintain them" (Meireles, 2018b, p. 6). Health conscious consumers prefer to take utilitarian aspects into their consideration than hedonic aspects in shorter period of time. These consumers make decisions regarding foods based on health aspects, while other people who have a lower health consciousness are considering the taste and attributes which are not associated with health. Hoque et al. (2018) revealed that health consciousness consumers are searching sources of information about fresh and healthy food. Furthermore, these

consumers are motivated to maintain good health condition and are more emphasized about wellness as they have a self-consciousness towards their health (Kaynak & Ekşi, 2014).

According to Meireles (2018b), the main reason for purchasing organic foods is the health consciousness. Most of the people consider their health, and want to improve the quality of life and health status, so that they engage in certain activities to promote a healthy life (Matić & Puh, 2015). People tend to do something on behalf of their health as they prefer to spend a healthier and safer life (Kaynak & Ekşi, 2014). More health consciousness consumers have a constant preference for healthier products alternatives. Moreover, consumers might reject products and brands which are harming to the society's health. Based on above evidence, following hypothesis can be developed.

H5: Health consciousness positively affects consumers' purchase intention of green products.

3. Research Methods

3.1. Conceptual framework

The proposed conceptual framework in this study was constructed based on the TPB model developed by Ajzen (1991). The TPB model was extended by using two constructs (health consciousness and environmental consciousness) which are considered as strong predictors of determining the consumers' green purchasing intention as illustrated in Figure 1. Attitudes, subjective norms, perceived behavioral control, environmental consciousness and health consciousness were considered as the independent variables, while the purchase intention towards green products was taken as the dependent variables.

Figure 1: Conceptual framework
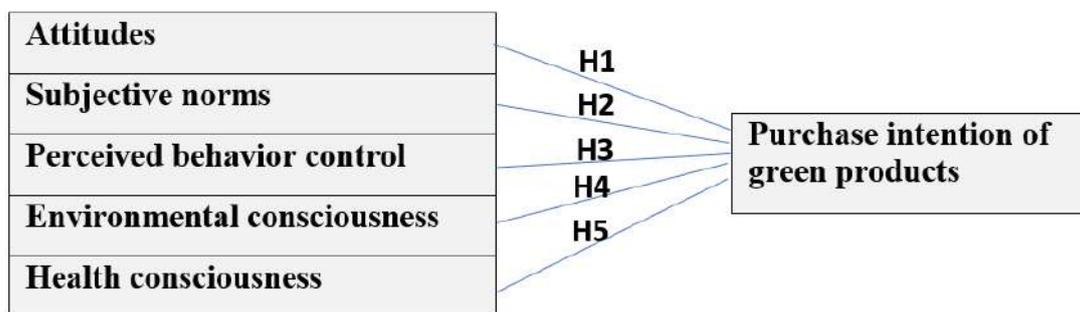
Source: Developed by the author (2025)

3.2. Research methods

To achieve the research objectives, this quantitative study follows the deductive reasoning approach aligning with the positivism philosophy as the researcher was not a part of the research and highly

structured methods were employed in this study (Sekaran, 2003). The Sri Lankan consumers who are aged 18 years or above were chosen as the target population of this study due to the complexity nature of the research area. In order to make the inference of the target population, a sample of 200 people who have recently purchased green products and over the age of 18 years was chosen for the study employing the purposive sampling method under the non-probability sampling techniques. The sample of 200 might not be sufficient for generalizing the findings to the entire population, however, for PLS-SEM, if the model is not excessively complex, this sample size is quite sufficient that can ensure the reliable model estimation (Roscoe, 1975). Further confirmed that a more complex formula is not always be necessary and a sample size between 50-500 sample is generally sufficient for most research. A self-administered questionnaire was distributed among the sample as a primary data collection tool. The questionnaire consisted of three parts; Part A covered the respondents' background information, Part B consisted of respondents' demographics and, Part C included the scale items for selected variables. All scale questions were measured on a 5-point Likert scale, where 1 denoted by strongly disagree and 5 denoted by strongly agree. The study utilised the online platform to gather data through Google-Form based questionnaires.

The quantitative data analytical tools were utilized for data analysis as this study was conducted as a quantitative research. The first step was to identify the sample's background and the demographics profile including age, gender and the level of education using frequencies. The confirmatory factor analysis was run in order to summarise scale data up to a manageable and understandable level. Moreover, reliability and validity were tested in the measurement model and the model ensured that available data are ready for the further analysis. Furthermore, the multiple regression analysis estimated the relationship between selected key psychological drivers and the green purchase intention, and assessed the strength of the relationship between independent and dependent variables. All data were analysed using the Smart PLS software in a meaningful way.

4. Data Analysis and Results

The researcher initially distributed 200 questionnaires among the sample, however only 178 questionnaires were collected. Among them, 150 questionnaires were in the analyzable manner as 28 questionnaires had to be rejected due to noticeable inconsistencies and outliers found in those questionnaires. Therefore, the response rate was 75%.

4.1. Sample information

According to respondents' background, 58.7% of the total respondents were aware of green products via Television. The respondents who were aware of green products via class teachers (18%) were 27, while 25 (16.7%) respondents were aware of green products via magazines with a percentage of 16.7.

When purchasing green products, most of the respondents concerned about environmental issues as a percentage of 47.3. The 32% of respondents took products features into consideration when purchasing green products. The main reason for willing to pay more for green products was the environmental protection responsibility as a percentage of 48.7. The major reason for not willing to pay more for green products was the high product cost (52.7 %). The most of the respondents purchased green products from the supermarkets as a percentage of 52.7. Moreover, 42% respondents had purchased green products from the traditional food courts (Hela Bojun).

The majority of the respondents were female (93) showing a 61.6% out of total respondents, while male respondents were 57 (37.7%). The highest number of responses were received from the respondents who were in the 25-34 years age category, exhibiting a 72 proportion out of total respondents. Secondly, 23.3% responses received from the 18-24 age range. According to the education level of the respondents, 57.6% of the total respondents were undergraduates, while 31.8% respondents were graduates. Ten respondents had obtained the advance level education with a percentage of 6.6. The majority of the respondents were unmarried (80.7%), while 19.3% of the total respondents were married. When analyzing the income level, 58% of the total respondents were belonged to the "below 30,000". Secondly, respondents who earned income ranging from Rs. 30,000-39,999 were 18.7%. Also, 12.7% of respondents were from the Rs. 40,000-50,000 income range.

4.2. Validation of measures

4.2.1. Original measurement model

In order to examine the dimensional structure of scales, the study run the confirmatory factor analysis (CFA), and assessed the reliability and validity of the data using the reflective measurements that ensure the model is in a satisfactory level for further examinations. All six latent variables were measured with multiple items in the measurement model. According to Fornell and Larcker (1981), the outer loading value should be ranged between 0.4-0.7 and, composite reliability should be greater than 0.6. If Average variance extract (AVE) value of the related construct is above 0.5, it should be retained in the model. If not, those items need to be removed from the original model until it increases the composite reliability and the AVE of the construct. Moreover, the latent variable should be able to explain at least 50% of the variance for each indicator.

EC consisted of five items in this study. According to the CFA, no items were removed from the construct as factor loadings and t- values were above the thresholds, which were 0.5 and 1.96 respectively (Wong, 2016). In the original measurement model, initial composite reliability and AVE of the EC were 0.882 and 0.601 respectively, which were greater than the thresholds. HC was measured with five items and, no items were removed from the construct as factor loadings satisfied the threshold level. Its composite reliability was 0.895, while AVE was 0.631, which were also above the threshold values. According to the CFA, one item was removed from attitudes as its β=-0.067 and t=0.392. Even

though this construct achieved the composite reliability (0.796) and AVE (0.501), the factor loading was below the threshold. SN was measured by using five items. Two items were removed from the construct (SN1= β=0.23 and t=0.787, SN2= β=0.571 and t=2.258), and three items retained for further analysis. PBC was measured with five items. Two items were removed from the model. Before removing these items, initial composite reliability was 0.797, but the AVE was 0.443 which was below the threshold level of 0.5. Hence, three items were kept in the construct for further analysis. PI was the dependent variable which was measured using five items. All items were retained for further analysis as the initial composite reliability (0.869) and AVE (0.572) were greater than the thresholds.

Table 01: Confirmatory factor analysis of the original measurement model

Constructs and indicators	Standardized factor loadings (t- value)	Composite reliability/ AVE
Independent Variables		
Environmental consciousness		0.882/0.601
EC1	0.852 (27.938)	
EC2	0.733 (8.411)	
EC3	0.758 (12.736)	
EC4	0.766 (15.078)	
EC5	0.759 (16.475)	
Health consciousness		0.895/0.631
HC1	0.751 (13.471)	
HC2	0.770 (12.510)	
HC3	0.839 (21.919)	
HC4	0.812 (20.906)	
HC5	0.795 (19.348)	
Attitudes towards green products		0.796/0.501
ATI1	0.800 (15576)	
ATI2	0.820 (15.584)	

ATI3	0.853 (24.588)	
ATI4	**-0.067 (0.392) ***	
ATI5	0.666 (5.858)	
Subjective norms		0.746/0.394
SN1	**0.230 (0.787) ***	
SN2	**0.571 (2.258) ***	
SN3	0.715 (4.057)	
SN4	0.787 (4.784)	
SN5	0.680 (3.695)	
Perceived behavior control		0.797/0.443
PBC1	**0.550 (4.679) ***	
PBC2	0.681 (7.920)	
PBC3	0.692 (9.937)	
PBC4	**0.617 (7.216) ***	
PBC5	0.767 (12.160)	
Dependent Variable		
Purchase intention		0.869/0.572
PI1	0.696 (10.840)	
PI2	0.867 (34.328)	
PI3	0.767 (12.714)	
PI4	0.783 (15.911)	
PI5	0.650 (8.320)	

Source: Survey-2025

4.2.2. Final measurement model

The final measurement model was derived after removing manifest variables as illustrated in Table 02. According to the final measurement model, indicators of the environmental consciousness, health consciousness and purchase intention were not changed as outer loadings, composite reliability and AVE were greater than threshold values. However, few indicators from attitudes, subjective norms and

perceived behavior control were removed due to lower outer loadings. After removing those indicators, factor loading, composite reliability and AVE for attitudes, subjective norms, perceived behavior control were kept in high. Therefore, the remaining items still adequately represented each construct domain.

Table 02: Final measurement model

Constructs and indicators	Standardized factor loadings (t- value)	Composite reliability/ AVE
Independent Variables		
Environmental consciousness		0.878/0.591
EC1	0.85 (27.234)	
EC2	0.732 (8.411)	
EC3	0.759 (12.736)	
EC4	0.767 (14.283)	
EC5	0.745 (16.418)	
Health consciousness		0.895/0.630
HC1	0.752 (13.536)	
HC2	0.771 (13.690)	
HC3	0.839 (23.728)	
HC4	0.813 (22.257)	
HC5	0.805 (20.284)	
Attitudes towards green products		0.870/0.629
ATI1	0.814 (16.208)	
ATI2	0.803 (15.398)	
ATI3	0.867 (27.210)	
ATI5	0.676 (5.610)	

Subjective norms		0.803/0.577
SN3	0.794 (4.278)	
SN4	0.800 (5.671)	
SN5	0.728 (4.809)	
Perceived behavior control		0.801/0.573
PBC2	0.708 (7.033)	
PBC3	0.753 (10.950)	
PBC5	0.807(12.640)	
Dependent Variable		
Purchase intention		0.869/0.572
PI1	0.695 (9.861)	
PI2	0.866 (34.492)	
PI3	0.767 (12.900)	
PI4	0.785 (16.428)	
PI5	0.650 (8.078)	

Source: Survey-2025

4.3. Internal consistency reliability and Validity

To measure the internal consistency within data, the researcher used the composite reliability (CR). Fornell and Larcker (1981) highlighted that the threshold value of the CR should be 0.6 or above. As illustrated in Table 03, HC has the highest composite reliability (0.895), while perceived behavior control shows the lowest value (0.801). The CR of all six latent variables are above the threshold, and achieved the internal consistency reliability.

Table 03: Internal consistency reliability

Constructs	Composite reliability	Average variance Extract (AVE)
Environmental consciousness	0.878	0.591
Health consciousness	0.895	0.630

Attitudes	0.870	0.629
Subjective norms	0.803	0.577
Perceived behavior control	0.801	0.573
Purchase intention	0.869	0.572

Source: Survey-2025

Convergent validity is used when scores taken from two different tools to measure the same concept which is mostly correlated (Sekaran, 2003). The AVE value provides evidence for the convergent validity (Fornell and Larcker, 1981). According to Table 03, HC has the highest AVE (0.630), while PI shows the lowest AVE value (0.572). It proved that there is a satisfactory level of convergent validity of all six latent variables and ability to explain the variance of each indicator, keeping AVE above 0.5.

Table 04: Discriminant Validity

	EC	HC	ATI	SN	PBC	PI
EC	**0.769**					
HC	0.645	**0.794**				
AT	0.489	0.509	**0.793**			
SN	0.238	0.234	0.214	**0.760**		
PBC	0.402	0.412	0.402	0.290	**0.757**	
PI	0.645	0.648	0.513	0.190	0.290	**0.756**

Source: Survey-2025

Discriminant validity is used when two constructs are truly distinct and uncorrelated from each other (Sekaran, 2003). According to Fornell and Larcker (1981), latent variable's square root of AVE should be greater than the squared correlation of latent variable. The diagonals represented all cases which are greater in each corresponding row and column. In this study, researcher achieved the discriminant validity in the model as illustrated in Table 04.

4.4. Hypotheses testing

After confirming the validity and reliability of the measurement model, the structural path model was evaluated. For that, extended PLS algorithm, bootstrapping and blindfolding procedure were utilised. The coefficient of determination ($R2$) and predictive relevance ($Q2$) in the measurement model were tested as illustrated in Table 05 and Table 06 respectively. According to the previous researchers, there should have at least 0.25 for $R2$ (Hair et al., 2016). In this model, attitudes have the highest coefficient of determination (0.303). Accordingly, 53.3% variance in the endogenous latent variable (purchase intention) can be explained by all independent variables.

Table 05: Coefficient of determination (R2)

Constructs	R Square	R Square Adjusted
Attitudes	0.303	0.289
Perceived behavior control	0.222	0.206
Subjective norms	0.068	0.048
Environmental consciousness	0.250	0.235
Health consciousness	0.280	0.265

Source: Survey-2025

In order to measure the predictive relevance (Q2) for the endogenous latent variable, the study used the blindfolding procedure. According to Stone-Geisser's formula, the value of the endogenous latent variable should be greater than zero, then that variable has a predictive relevance. According to Table 06, endogenous latent variable (purchase intention) has 0.288 predictive relevance which confirmed the predictive relevance.

Table 06: Predictive Relevance (Q2)

Constructs	SSO	SSE	Q^2 (=1-SSE/SSO)
Subjective norms	300.000	291.000	0.030
Purchase intention	500.000	356.463	0.288
Perceived behavior control	500.000	362.081	0.112
Environment consciousness	500.000	500.000	-
Health consciousness	500.000	500.000	-
Attitudes	400.000	328.665	0.179

Source: Survey-2025

4.4.1. Final measurement model

As illustrated in Table 07, the PLS path model shows the relationship between dependent and independent variables based on the path coefficients (β) values, t values and p values. According to the path coefficients (β), health consciousness (β= 0.376) and environmental consciousness (0.339) have stronger effects on purchase intention towards green products than attitudes (β=0.194), while the effects of subjective norms (β= 0.003) and perceived behavior control (β=-0.095) are negligible.

Table 07: Results of PLS path model estimation

Paths	β value	t value	P value
Attitudes towards green products → purchase intention	0.194	2.125	0.034
Subjective norms → Purchase intention	**0.003**	**0.036**	**0.971**
perceived behavior control → Purchase intention	**-0.095**	**1.082**	**0.280**
Environmental consciousness → Purchase intention	0.339	3.647	0.000
Health consciousness → purchase intention	0.376	3.642	0.000

Note: Significant value is 0.05 (P < 0.05)

Source: Survey-2025

Table 08: Summary of the hypotheses

	Hypotheses	Results
H1	Attitudes towards green products positively affect consumers' purchase intention of green products	Accepted
H2	Subjective norms positively affect consumers' purchase intention of green products	**Rejected**
H3	Perceived behavior control positively affects consumers' purchase intention of green products	**Rejected**
H4	Environmental consciousness positively affects consumers' purchase intention of green products	Accepted
H5	Health consciousness positively affects consumers' purchase intention of green products	Accepted

5. Discussion, Conclusion and Recommendations

The study's main objective was to investigate key psychological drivers that impact on consumers' purchase intention towards green products within the Sri Lankan food and beverage industry. The current study constructed five research hypotheses which were derived from previous literature. Out five hypotheses, three hypotheses were accepted, while two were rejected due to statistical

insignificance. Attitudes, environmental consciousness and health consciousness were identified as key drivers of green products purchase intention which need to be prioritized by food and beverage firms in their marketing tactics instead of relying on other factors.

According to study findings, attitudes found to be a significant predictor of consumers' purchase intention. According to Choi and Johnson (2019), attitudes play a significant role in the decision-making process related to green products. It is supported by Maichum et al. (2017), who confirmed that environmental attitudes have a powerful effect on purchase intention towards the green products in Thailand consumers. Maichum et al. (2016) also stated that attitude has the most significant impact on purchase intention of green products. Subjective norms found to be an insignificant predictor of the purchase intention of green products. However, this is not comparable with other studies as they found that SN has a significant impact on green purchase intention (Asif et al., 2017; Choi & Johnson, 2019). In the collectivistic culture, subjective norms have a more powerful effect on green purchase intention more than attitudes (Kumar, 2012). However, this could not be applicable to the Sri Lankan context as Sri Lankan consumers do not much concern the pressure from others and their expectations (teachers, parents, friends or referent groups), because people are more likely to rely on their personal opinions. However, some empirical findings argued that subjective norms are a weak predictor of green purchase intention, when compared to the effect of attitudes (Zhang et al. 2019; Maichum et al., 2016).

The study found that there is an insignificant effect of perceived behavior control on purchase intention of green products. This inconsistency can be explained by the sample used. The data were collected from the respondents who have already purchased green products. Thus, sometimes consumers may not experience any obstacles or difficulties in purchasing green products long term, and they might have easy access to green products. Moreover, they might have more confidence in purchasing green products, and care about other factors in addition to their capabilities such as time and money. This is similar to the previous studies (Asif et al., 2017; Choi & Johnson, 2019), found an insignificant effect between perceived behavior control and purchase intention of green products. Also, if consumers have strong attitudes towards green products, they may overshadow the impact of perceived behavior control. Moreover, consumers who have past positive experiences may take green decisions that become a stronger predictor for green purchasing than PBC.

The findings revealed that environmental consciousness strongly affects consumers' purchase intention of green products with a high significant value. The consumers will tend to purchase green products, if they more concern about the environment. Moreover, they will have an intention to purchase green products, if they concern more of environmental issues. This is supported by Irianto (2015), who found a positive and direct effect between environmental consciousness and intention of organic food purchasing. Health consciousness was also found to be a strong predictor for determining the consumers' green purchase intention, which is consistent with the study of Abdulsahib et al. (2019) who concluded that the most prominent reason for purchasing green products is the health

consciousness. If people have a higher level of health concerns, they will tend to purchase green products rather than normal products.

The study provides some valuable insights for theory in boosting the prevailing knowledge of green consumerism area as the study extended TPB model adding environmental consciousness and health consciousness. Although TPB model can be used to predict the green purchase intention, it challenges the global applicability of the model where subjective norms and perceived behavior control are not found to be significant in the developing economies like Sri Lanka. It implies that the functions of TPB model can be varied across different countries. Another implication for theory is value-based or health related factors are identified as strong predictors in green purchase intention than social factors and perceived easiness. This study also offers important insights for mangers and policy makers in the food and beverage industry. Especially, they could understand what factors affect consumers' purchase intention of green products, and formulate effective strategies to increase green purchases and behavioral patterns towards eco-friendly products. Moreover, managers should place more emphasize and thoroughly promote products which include green ingredients in their products that do not harm to the environment, and furthermore, they could create packages for their green products which can be recyclable (Hojnik et al., 2019).

Since attitudes found to be a significant predictor of green purchasing intention, more attention should be given to improvement of taste quality, freshness and trust of green products and, communicate functional and emotional benefits to customers because they purchase green products based on their attitudes towards the green products, not because of others' options. Furthermore, to reinforce consumers' positive attitudes, food and beverage managers could strengthen organic labeling, eco-certifications and food safety standards. The finding of the insignificant effect of subjective norms on purchase intention may be a new thing for the collectivistic culture like Sri Lanka. The consumers do not take others' opinions or expectations into consideration when they make purchase decisions (Priyanthani & Rebecca, 2025). Therefore, marketers should follow modern policies away from the traditional marketing practices which are suitable for a collectivistic culture. Marketers could effectively communicate their marketing messages among people, so that people's intention to purchase green products could be increased through the influence of social groups and other referent groups (Yadav & Pathak, 2016). Moreover, marketers could include health aspects in their promotions and activations in order to increase consumers' health knowledge. Food and beverage managers could conduct marketing campaigns which is able to build the consumer awareness of green products rather than promoting what they are supposed to do. According to study findings, perceived behavior control does not directly and positively affect purchase intention of green products. The main reason for that, only consumers who recently purchased green products were considered in this study. Therefore, availability of green products and convenient access to the green items could improve purchase intention of green products.

Policy makers also have a huge responsibility to make consumers aware of green products and the significance of the eco-friendly behavior, and encourage consumers to purchase green products (Hojnik et al., 2019). Government actions which are related to environmental considerations and sustainability would lead to protect the environment. When planning policies, government should promote awareness of environmental certifications for green products and ecological labels that influence consumers' positive attitudes towards green products. According to Hojnik et al. (2019), to enhance the consumers' awareness of green products, consumers should be given the information about environmental certifications, labels, sustainable actions and sustainable behavior. Since the health consciousness is found to be a significant predictor of green purchase intention, the policy makers could formulate strict rules and legislations specifically for healthier product option, thus, it prevents consumers to choose harmful and non-healthier products, ultimately it leads consumers to increase green products purchases rather than non-green products.

This study is inherent with some limitations. The use of the small sample size ignored the diverse demographic population., which might be a problem for generalizing the study findings to a wider audience. The study was conducted as a cross-sectional study that might hinder the reliability of the study because consumers' attitudes, perceptions and purchase intention could be changed long term. The future research could use a larger sample following the longitudinal study that allows researchers to overcome these limitations. When considering philosophical limitations, the study followed the objectivism perspective, hence, the subjective or interpretivism aspects were ignored, while doing the study. Conducting a focus group interview under subjectivism perspective may be useful to identify consumers' deeper opinions and perceptions. This study considered five constructs in the extended TPB model, however, other factors which may strongly influence on consumers' purchase intention could be explored in future research.

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APPENDICES

Appendix 1: Operationalization of variables

Table 09: Operationalization of Variables

Constructs and items	Sources
Environmental Consciousness: 1. I am very conscious of the environmental issues that I am facing in my life. 2. It is very important to raise environmental consciousness among Sri Lankan people 3. I have consciousness that purchasing green products will contribute to the sustainable future 4. When I have a choice between two equal products. I purchase the one less harmful to the environment 5. The balance of nature is very delicate	Maichum et al. (2017) and Wang et al. (2020)

Health Consciousness: 1. I reflect about my health a lot 2. I am very self-conscious about my health 3. I am constantly examining my health 4. I am very involved with my health 5. I am aware of the state of my health as I go through the day	Hu (2013)
Attitudes towards green products: 1. I think that purchasing green product is favorable 2. I think that purchasing green product is a good idea 3. I think that purchasing green product is safe 4. Purchasing green products would be pleasant 5. My life will be better if I consume green products in the near future	Abdulsahib et al. (2019) and Maichum et al. (2016)
Subjective norms: 1. My society expects me to purchase green products 2. My family think that I should purchase green products rather than normal products 3. My close friends think that I should purchase green products rather than normal products 4. Most people who are important to me think I should purchase green products rather than normal products 5. Most people who are important to me would think I should purchase green products for personal use	Zhang et al. (2019), Maichum et al. (2016) and Chan and Lau (2002)
Perceived behavior control: 1. I am confident that I can purchase green products rather than normal products when I want 2. I see myself as capable of purchasing green products in future 3. I have resources, time and willingness to purchase green products 4. There are likely to be plenty of opportunities for me to purchase green products	Maichum et al. (2016) and Zhang et al. (2019)

Purchase intention towards green products 1. I intend to purchase green products next time because of its positive environmental contribution. 2. I plan to purchase more green products rather than normal products. 3. I will purchase green products for personal use. 4. I am willing to purchase green products for personal use. 5. I will try to purchase green products.	Yadav and Pathak (2016) and Maichum et al. (2016)

Understanding Google Translate's Limitations in English – Chinese Translation: A Linguistic Error Analysis Approach

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Abstract

Machine Translation (MT) tools such as Google Translate (GT) are widely used by language learners for translating texts between Chinese and English languages, underscoring the need for systematic evaluation of MT output accuracy. This study examines the quality of GT by conducting an error analysis of Chinese-to-English and English-to-Chinese translations across texts of varying genres and lengths. The research was motivated by the growing perception that GT has improved in recent years, raising the question of whether learners can rely on GT for translation accuracy without the guidance of a language instructor. To contextualise learner engagement with GT, a preliminary questionnaire was administered to beginner-level undergraduates studying Chinese as a Foreign Language at a private higher education institution in Sri Lanka to examine usage patterns and reliance on the tool. Using a qualitative thematic analysis approach, the study identifies several linguistic errors produced by GT. The findings reveal persistent limitations in GT's handling of linguistic, semantic, and contextual features, thereby offering insights into its reliability and pedagogical implications for Chinese–English translation in language learning settings.

Keywords*: Error Analysis, Google Translate, Language Error, Machine Translation, Source Language, Target Language.*

1. Introduction

This study originates from the observation that Machine Translation (MT) systems, notably Google Translate (GT), have advanced considerably. Due to globalization and the increasing need for cross-language communication, the demand for accurate Chinese–English translation has grown significantly. Translation between Chinese and English requires more than the simple transfer of words; it involves conveying contextual meaning, idiomatic expressions, and pragmatic nuances unique to both languages. Achieving an accurate translation requires time, competence, and strong linguistic knowledge in both the Source Language and the Target Language. Chinese and English differ greatly in grammar, structure, and cultural expressions, and therefore producing an accurate translation is challenging, and linguistic errors are likely to occur in the process. With the rapid advancement of technology, many learners and users now rely on Machine Translation tools such as Google Translate to handle large volumes of Chinese–English translation quickly. While MT provides efficiency and convenience, its output must still be examined for linguistic accuracy to ensure that meaning is preserved without distortion.

2. Literature Review

Machine Translation refers to the use of rule-based systems or machine learning algorithms to translate text or speech from one language to another. A number of MT engines are widely used today, including Google Translate, DeepL, Baidu Translate, Microsoft Translator, and Amazon Translate. Among these, Google Translate has become one of the most commonly used tools for bridging communication gaps, especially in translating between English and Chinese for academic, social, and professional purposes. In the Sri Lankan context, Google Translate is frequently used by undergraduates who rely on it to understand unfamiliar English or Chinese words and phrases, particularly those studying Chinese as a foreign language. Those who want to know the translation of some phrases, or students who are learning foreign language, probably use Google translate to fulfil their needs of information (Hilma, 2011).

Research by Aslerasouli & Abbasian (2015) on undergraduates' translation of texts using GT compare both HT and MT to investigate their qualities where the findings show that there is a significant difference in the quality of HT and MT and the HT's quality was still higher than that of MT. Study by Anggaira (2017) on high school students' translations from English to Indonesian analyze the aspects of language errors that appear on GT of which the results indicate that GT translates word by word, but overlooks sentence context, resulting in morphological, syntactic, and semantic errors. Anggaira (2017) asserts that human improvements to the GT output are required to get translation accuracy.

2.1. Translation

Translation is basically change of form. The original form of the content being translated is generally called the Source Language, and the form into which it is to be changed is referred as the Receptor Language or Target Language. Translation, by dictionary definition means entails converting content from one form to another, to turn into another language (The Merriam-Webster Dictionary. (1974). Massachusetts: Merriam-Webster). Translation, at its core, is the process of rendering written or spoken content from one language (the Source Language) into another language (the Target Language or Receptor Language) while maintaining the meaning, tone, and intent of the original message.

Translation is a process of written communication between the writer and the possible audience through the translator's conveying meaning of a source language into a target language considering the elements of lexicon, grammar, and context to meet the requirement of naturalness of a target text; a procedure with four levels: the SL text level, the level of language; the referential level, the level of objects and events, real or imaginary; the cohesive level; and the level of naturalness (Truong, 2023).

Although several techniques exist, BLEU (Bilingual Evaluation Understudy) is perhaps the most common MT translation evaluation tool used by most researchers. (Papineni et al., 2002), and some studies have shown that it achieves a high correlation with human judgments of quality (Couglin, 2003). Using this technique, scores ranging from 0 to 100 are calculated for a sample of translated text by comparing it to a reference translation, and the method takes into account the number of words that are the same in the two passages as well as the word order.

Kembaren et al. (2023) in their research analyzed the grammatical errors produced when using GT in writing narrative texts from Indonesian language to English language in writing narrative text among Culinary Art students where they used GT to complete assignments or translate tasks. Kembaren et al. used Surface Strategy Taxonomy (SST) theory of analysis is used to categorize the data, which included errors in omission, addition, misinformation, and misordering.

Machine Translation is the mechanization and automation of the process of translating from one natural language into another. Translation is a task which needs to tackle the 'semantic barriers' between languages using real world encyclopaedic knowledge and requires a full understanding of natural language (Sin-Wai, 1988).

Hutchins & Somers (1992) define MT as the traditional and standard computerised system responsible to produce translations from one natural language into another, with or without human assistance, earlier introduced in English as 'mechanical translation' and 'automatic translation' and in other languages as French- traduction automatique, Russian- avtomatičeskii perevod. Hutchins & Somers further elaborate that boundary between Machine- Aided Human Translation and Human- Aided Machine Translation (HAMT) are often uncertain and the term Computer-Aided (or Computer-

Assisted) Translation (both CAT) can sometimes cover both. But the central core of MT itself is the automation of the full translation process.

2.2. Error Analysis

Error Analysis, a fundamental branch of applied linguistics, emerged in the sixties to address students' performance (Shrestha, 1979). Keshavarz (2011) defined EA as collecting samples of errors, identifying errors, classifying, and evaluating them, further considering errors to be systematic, and regarded as rule-governed, when they follow the rules of the learner's interlanguage. According to Hutchins & Somers (1992), quality assessment appraises the 'goodness' of a translation, while error analysis measures the 'badness' of the MT output by identifying errors and assessing how much is there to correct to achieve the standard, acceptable status as a translation.

According to (Ubol, 1988), EA is a methodical description, systematic examination and interpretation of errors made by learners of the TL. EA focuses on identifying errors, clarifying of the occurrence and the production of their oral or written expression distinguishes from that of native speaker or TL standard. EA plays a crucial role in advancing the theoretical understanding within applied linguistics and among language professionals. According to Gass & Selinker (1994), EA makes a comparative analysis between the errors a learner makes in producing the TL and the TL form itself. It is similar to the weak version of contrastive analysis in that both start from learner production data; however, in contrastive analysis the comparison is made with the native language, whereas in error analysis it is made with the TL.

2.3. Errors generated by Google Translate

MT is evaluated as a piece of software in terms of general parameters such as speed and number of supported file formats, subject to existing standards and criteria. Evaluation of MT becomes a matter of text quality assessment because MT outputs are essentially in the form of text. The major approaches of MT evaluation, including both manual and automatic, will be presented with a discussion of their strengths and weaknesses (Sin-Wai, 1988). Google Translate's performance is often linked to the amount of human-translated text it has access to. The system relies heavily on vast corpora of bilingual texts, which it uses to "learn" how to translate between languages. Google Translate depends on the number of human translated texts searched by Google Translate (Karami, 2014).

3. Methodology

This study was conducted to examine the accuracy and limitations of Google Translate (GT) in the context of English to Chinese and Chinese to English translation. A qualitative research design was employed to analyse GT's performance across a range of authentic texts, including articles, brochures,

manuals, and website excerpts. Both the original source texts and their GT-generated translations were examined to identify translation errors and determine areas where GT fails to maintain linguistic and semantic accuracy.

In this study, qualitative analysis was used to locate and classify translation errors according to major linguistic categories, including syntax, morphology, lexis, and semantics. This approach enabled a detailed exploration of the linguistic mismatches that occur in Chinese and English machine translation.

As part of the preliminary phase, a questionnaire was administered to a group of undergraduates studying Chinese as a Foreign Language at a private university in Sri Lanka. The aim was to obtain background information on their use of Google Translate for language learning and translation tasks. The sample consisted of 20 learners enrolled in business-related degree programmes, of whom 10 were taking Chinese as an elective foreign language at the beginner level. These students attended language classes for three hours per week over a period of five months. Translation tasks were assigned toward the end of the course once students had acquired basic sentence construction skills, allowing for a comparison between student-generated translations and GT output. The insights from this preliminary data supported the need for evaluating GT's accuracy and informed the qualitative analysis undertaken in this research.

Based on the responses given through the questionnaire on the use of Google Translate in their translation work, a translation task was given for each language group separately. The data collected from the participants gave background information about them, their tendency to use GT and the causes. At the first stage, the students were not allowed to use GT to do the translation task. Once they completed the translation task on their own, the students were asked to use GT on their mobile devices and compare and contrast their writing with the TT produced by GT.

Based on the findings from the preliminary phase, a set of authentic Chinese and English texts of varying genres and lengths were selected for detailed analysis. These included materials such as articles, brochures, manuals, and website excerpts, chosen to represent a broad range of real-world communication contexts relevant to the learners' academic and professional needs. Each text was translated using Google Translate, and the machine-generated target texts were then compared with the original source texts to identify translation inaccuracies and determine patterns of linguistic errors. The selection of authentic documents ensured that the study examined GT's performance in practical and contextually diverse situations. Additionally, a simple translation task was assigned to the undergraduates studying Chinese as a Foreign Language at the beginner level, allowing for a supplementary comparison between learner-generated translations and GT output.

4. Data Analysis

The analysis revealed that the 20 participants were beginner-level learners of Chinese, which was an important factor in interpreting their reliance on Google Translate despite their limited language competence. Usage patterns indicated that nine students used Google Translate daily, while another eight reported using it at least once a week, demonstrating frequent dependence on MT tools for basic translation needs. Before completing the translation task, a majority of the participants believed that Google Translate produced translations that were "accurate" or "very accurate." However, after engaging with the translation activity and comparing machine output with human translation, fewer students maintained this perception. This shift highlights the learners' revised understanding of the limitations of GT in producing linguistically and contextually accurate translations between Chinese and English.

Responses to the open-ended and close-ended questions provided rich qualitative insights into learners' experiences, expectations, and challenges when relying on GT. Their reflections offered nuanced perspectives on how effectively GT supported—or hindered—their translation processes. To evaluate GT's translation accuracy, the study used authentic Chinese and English texts for comparison between machine-generated translations and reference translations. This range of authentic materials allowed the analysis to assess GT's performance across diverse linguistic contexts, including both technical and non-technical content. Particular attention was given to contextual meaning, as Chinese and English differ significantly in syntactic structure, cultural references, and semantic expression. The analysis therefore focused on how well GT preserved meaning and nuance when translating between these two linguistically distinct languages.

5. Discussion

The analysis of Google Translate (GT) output reveals that, despite technological advancements, the tool continues to produce translations that appear unnatural, awkward, or semantically inaccurate when translating between English and Chinese. Many of these errors result from literal, word-for-word translation strategies that fail to capture meaning or contextual nuance—an issue particularly pronounced due to the significant structural, syntactic, and cultural differences between the two languages.

Across the dataset, error patterns varied depending on text type and length. Shorter texts tended to yield disproportionately higher error rates, indicating that GT struggles when limited contextual information is available. Although GT performed better with longer texts, where additional context helps inform translation choices, errors still persisted. These findings suggest that users should exercise caution when relying solely on GT, especially in tasks requiring precision or cultural and semantic accuracy.

Learner feedback further supports these observations. Several prominent themes emerged from the participants' reflections, revealing the practical challenges they encountered when using GT for English–Chinese translation tasks.

1. **Inaccurate or misleading translations**: Participants frequently noted that GT often produced incorrect or incoherent output, making it difficult for them to rely on the tool for accurate comprehension or correction of translation tasks.

2. **Confusion and frustration**: Many learners expressed feeling confused or discouraged by inconsistent or nonsensical translations. Instead of serving as a supportive learning aid, GT often introduced uncertainty and undermined their confidence.

3. **Negative impact on language learning**: Participants reported that dependency on GT hindered rather than supported their language acquisition. Inaccurate translations led to misunderstandings and prevented learners from developing reliable awareness of Chinese sentence structure and meaning.

4. **Overall dissatisfaction**: Learners' reflections conveyed a strong sense of disappointment, as GT did not meet their expectations as a translation support tool. Their experiences highlight the limitations of MT tools for beginner learners who lack the linguistic knowledge needed to identify and correct machine-generated errors.

Overall, the findings point to a shared perception among learners that GT is not sufficiently reliable for correcting translation tasks at the beginner level. The recurring issues of inaccuracy, conceptual misunderstanding, and learner frustration underscore the need for more guided pedagogical approaches that combine human instruction with technology, rather than depending solely on automated translation systems.

These results reinforce the importance of critically evaluating MT performance across diverse text types and contexts, and they highlight the ongoing need for improved MT accuracy in English–Chinese translation—a particularly complex language pair due to its profound linguistic and cultural contrasts.

Error Category	Description	Typical Example (Generic)	Impact on Translation Quality
Lexical Errors	Incorrect word choice, mistranslated vocabulary, wrong synonyms, incorrect polysemy interpretation.	"Bank" translated as 岸 instead of 银行.	Alters meaning; creates inaccurate or misleading translations.

Semantic Errors	Misrepresentation of meaning, missing implied meaning, misunderstanding idioms or culturally bound expressions.	Idiom translated literally: "Break the ice" → 打破冰块.	Produces unnatural, nonsensical, or misleading expressions.
Syntactic Errors	Incorrect sentence structure, word order, or grammar patterns misaligned with Chinese or English syntax.	English SVO → incorrect Chinese word order.	Lowers readability and disrupts natural flow.
Morphological Errors	Errors involving plural markers, tense, aspect, classifiers, or missing morphological markers.	Missing classifier: "three books" → 三书 instead of 三本书.	Causes grammatical inaccuracy; affects clarity.
Pragmatic Errors	Context or register not maintained; inappropriate level of formality; culturally unsuitable phrases.	Formal English translated into overly casual Chinese.	Results in socially inappropriate or contextually incorrect output.
Literal Translation Errors	Direct, word-for-word translation that fails to capture meaning or nuance.	"Heavy rain of problems" → 问题的暴雨.	Produces unnatural and sometimes nonsensical text.
Omission Errors	Missing key words, phrases, or grammar components.	Omitting "not" or modal verbs.	Distorts intended meaning.
Addition Errors	Extra words or meanings added by GT that do not exist in the source text.	Adding unnecessary intensifiers.	Alters original message; affects fidelity.
Named Entity Errors	Incorrect translation of names, places, organisations, or culturally specific terms.	Translating "Shanghai Disneyland" incorrectly.	Breaks accuracy and cultural meaning.

Summary of Linguistic Error Types Identified in English–Chinese and Chinese–English GT Output

Error Category	Frequency	% of Total Errors	Notes
Lexical	12	30%	High frequency due to polysemy and word choice issues.
Semantic	9	22.5%	Literal translations of idioms are common.
Syntactic	8	20%	Word-order mismatches between English and Chinese.
Morphological	5	12.5%	Classifier and aspect errors common.
Pragmatic	4	10%	Register mismatch; inappropriate tone.
Named Entity	2	5%	Mostly due to incorrect transliteration.

Error Frequency by Category (Generic Example Structure)

Source Text (ST)	GT Output	Correct Translation	Error Type	Explanation
ST example in English	GT Chinese output	Human translation	Lexical	Wrong word choice changes meaning.
Chinese ST example	GT English output	Human translation	Syntax	Incorrect word order.
Chinese ST	GT English	Human translation	Morphology	Missing classifier.
English ST	GT Chinese	Human translation	Semantics	Literal idiom translation.

Examples of Errors Extracted from GT

Theme	Description	Representative Learner Insight
Accuracy Concerns	Learners noted frequent errors and inconsistencies.	"The translation looked correct, but the meaning was wrong."
Confusion & Frustration	Inaccurate output caused uncertainty.	"GT made me more confused than before."

Learning Setbacks	GT hindered learning instead of supporting it.	"I couldn't understand which one was correct—GT or my work."
Discouragement	Expectations of reliability were unmet.	"Using GT made me doubt my progress."

Summary of Participant Feedback Themes Related to GT Use

6. Conclusion

This study examined the accuracy and limitations of Google Translate (GT) in translating between English and Chinese, highlighting both its potential and its constraints in a language-learning context. The findings reveal that while GT can serve as a useful support tool, particularly for beginners seeking quick meaning access, its output remains prone to errors arising from literal translation, structural mismatches, and contextual misunderstandings. These issues are especially evident when translating between languages with significant linguistic and cultural differences, such as English and Chinese.

Given these limitations, it is essential that learners first attempt their own translations before relying on GT for comparison or correction. Teachers play a critical role in guiding students to critically evaluate GT output rather than accepting machine translations as authoritative. Students must be encouraged to verify meaning independently and develop an awareness of GT's common error patterns.

Although the analysis provided meaningful insights into GT's performance across different text types and lengths, it does not represent the full spectrum of translation challenges that may arise. Nonetheless, the study reinforces the need for careful review of GT-generated translations and underlines the importance of human oversight in the learning process.

Ultimately, this research supports the informed and strategic use of GT as a supplementary tool rather than a primary translation method. By understanding its strengths and weaknesses, learners can harness GT effectively while simultaneously strengthening their English–Chinese translation skills and overall linguistic proficiency.

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Assessment Types and Learning Effectiveness among Undergraduates: Evidence from a Sri Lankan Private University

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Abstract

This study examines how formative and summative assessment types influence learning effectiveness among undergraduates in a Sri Lankan private university, with a particular focus on the role of learning fondness. Using a quantitative cross-sectional survey, data were collected from 125 undergraduate students across different academic years and analyzed using correlation, regression, and moderation techniques. The results show that both formative and summative assessments have a significant positive impact on learning effectiveness, with formative assessments having the strongest influence. Learning fondness was found to directly enhance learning effectiveness, highlighting the importance of students' positive attitudes toward learning. While learning fondness slightly influenced the relationship between summative assessments and learning effectiveness, it did not affect the relationship between formative assessments and learning effectiveness. These findings suggest that well-designed formative assessments consistently support effective learning, regardless of students' affective preferences. The study highlights the value of combining continuous formative assessments with meaningful summative evaluations to improve learning outcomes and inform assessment practices in higher education.

Keywords*: Formative assessments, Learning effectiveness, Perceived Effectiveness, Student motivation, Summative assessments.*

1. Introduction

1.1. Background of the study

Assessment practices in higher education have long been recognized as central to promoting meaningful learning, yet debates persist globally regarding their differential impacts on student outcomes. Research trends indicate a growing emphasis on formative assessments, characterized by ongoing feedback and opportunities for learners to monitor and adjust their learning, as an effective driver of deeper engagement, self-regulation, and academic success (e.g., Black & Wiliam, 1998; Carless, 2015). Concurrently, summative assessments remain widely implemented for certification and accountability, though scholars question whether their traditional usage prioritizes performance over learning (Brown, 2004; Taras, 2005). Recent literature also highlights a shift toward understanding how affective and dispositional factors, such as students' attitudes and preferences, shape responses to assessment practices and subsequent learning effectiveness (Gikandi, Morrow & Davis, 2011; Eva & Regehr, 2011).

Despite these advances, significant gaps remain. First, much of the existing research focuses on developed educational contexts, leaving limited insight into how different assessment types operate in emerging and culturally unique settings, such as Sri Lankan private universities, where pedagogical traditions and student expectations may differ substantially. Second, while constructs such as motivation, engagement, and self-efficacy have been explored extensively as determinants of learning outcomes, affective predispositions toward learning itself, termed learning fondness, have received comparatively little empirical attention (Adamson, 2024; Nakioba & Kasagga, 2020). Most studies assume that favorable dispositions automatically translate into engagement or motivation; however, affective preference represents a distinct psychological orientation that can shape how students interpret, respond to, and benefit from assessment practices.

Furthermore, contemporary studies rarely integrate both formative and summative assessment types with dispositional moderators within a single analytical framework, limiting theoretical development and practical generalization. This gap constrains understanding of whether students' positive orientation toward learning amplifies or attenuates the effects of different assessment formats on learning effectiveness.

To address these shortcomings, the present study investigates how perceived effectiveness of formative and summative assessments influences learning effectiveness among undergraduate students in a Sri Lankan private university, and whether learning fondness moderates these relationships. By situating the analysis in a non-Western context, this research contributes contextual depth to assessment scholarship. Methodologically, the study's integration of moderation analysis extends assessment research beyond simple main effects, offering richer empirical insights into how student predispositions intersect with assessment formats. Theoretically, it foregrounds learning fondness as a

conceptually distinct affective factor—beyond motivation and engagement, that can inform more nuanced educational interventions. Practically, the findings have implications for designing balanced assessment strategies that enhance learning outcomes across diverse higher education environments.

1.2. Problem Statement

A study that has been conducted by Ahmed et al. (2019) has demonstrated that a combination of both formative assessments and summative assessments can bring a positive reflective of knowledge in students. Also, it manifests that a teacher would know well about the capacity and standard of students during formative assessments, and it would help the teacher to set up the final exam or the summative tests in an effective way that suits the audience. A research conducted by Ismail et al. (2022) highlights the effects of formative assessments and summative assessments on academic motivation and self-regulation towards studies and learning. However, no study has been conducted to separately assess the impact of different types of formative assessments and summative assessments on learning fondness of students or the learning effectiveness. Therefore, it is suitable to research and explore the impact that different assessment types create n students' learning fondness and learning effectiveness.

1.3. Research Questions

1. What is the impact of Perceived Effectiveness of Formative Assessments on Learning Effectiveness?
2. What is the impact of Perceived Effectiveness of Summative Assessments on Learning Effectiveness?
3. What is the impact of Learning Fondness on Learning Effectiveness?
4. Does Learning Fondness moderate the relationship between Perceived Effectiveness of Summative Assessments and Learning Effectiveness?
5. Does Learning Fondness moderate the relationship between Perceived Effectiveness of Formative Assessments and Learning Effectiveness?

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2. Literature Review

2.1. Theoretical framework

2.1.1. Constructivist Learning Theory

Constructivist Learning Theory provides the first theoretical foundation of this study by positing that learners actively construct knowledge through interaction, reflection, and engagement with meaningful learning activities (Piaget, 1972; Vygotsky, 1978). In this perspective, learning is an active and iterative process in which students continually build and refine their understanding based on the stimuli and

feedback they receive. Formative assessments such as quizzes, presentations, class activities, and practice tests align strongly with constructivist principles because they create repeated opportunities for learners to test their knowledge, identify gaps, and adjust their understanding (Channa et al., 2025). The emphasis on continuous feedback and iterative improvement allows students to restructure misconceptions and deepen conceptual understanding. Summative assessments, although more evaluative in nature, also contribute to learning under constructivism by requiring students to integrate cumulative knowledge and demonstrate mastery at the end of an instructional period (Cizek, 2010).

2.1.2. Assessment for Learning (AfL) Theory

Assessment for Learning (AfL) Theory further frames this study by emphasizing that assessment should serve as a tool for improving learning rather than solely measuring it. According to Black and Wiliam (1998, 2006), effective assessment practices focus on providing feedback that helps learners understand their current level of performance, identify areas for improvement, and take actionable steps toward achieving learning goals. Within this framework, formative assessments play a central role because they are designed to support learning during the instructional process by offering continuous, targeted feedback (Mahmood & Ghaleb, 2024). Such feedback reduces the gap between actual and expected performance and assists both instructors and students in adjusting teaching and learning strategies accordingly (Heritage, 2012). AfL theory helps explain why formative assessments in this study had a stronger influence on learning effectiveness compared to summative assessments.

2.1.3. Motivation and Self-Regulated Learning Theory

Motivation and Self-Regulated Learning Theory provides the final theoretical lens for this study by highlighting the role of students' internal motivation, emotional engagement, and self-regulation in shaping academic outcomes. According to Zimmerman (2002), self-regulated learners set goals, monitor their progress, manage their emotions, and adjust their strategies to achieve academic success. Expectancy-Value Theory further suggests that learners are more likely to invest effort in tasks they value and believe they can successfully complete (Eccles & Wigfield, 2002). Learning fondness defined as students' enthusiasm, interest, and positive emotional attachment toward academic work fits within this motivational framework. Previous research indicates that learning fondness enhances engagement, deepens cognitive involvement, and increases persistence (Adamson, 2024; Nakijoba & Kasagga, 2020).

Taken together, these three theories form a cohesive foundation for understanding the relationships examined in this study. Constructivist Learning Theory explains how students build knowledge through active engagement with assessment tasks. Assessment for Learning Theory clarifies the mechanisms through which formative assessments, supported by timely and constructive feedback, enhance learning effectiveness. Motivation and Self-Regulated Learning Theory highlights the role of learning fondness in shaping how assessment experiences translate into meaningful learning outcomes.

Integrating these perspectives, the theoretical model suggests that while both formative and summative assessments influence learning effectiveness, formative assessments exert the strongest impact due to their alignment with active learning and feedback-driven improvement. Summative assessments, meanwhile, contribute meaningfully to learning when supported by students' motivation and emotional readiness (Kwan, 2024). This combined theoretical foundation thus provides a robust underpinning for the conceptual and empirical components of the study.

2.2. Overview of Assessments

Assessments are identified as an essential component in the learning-teaching process. According to Brown (2003), assessments is the mechanism which lecturers use to get a feedback on their teaching and assess the knowledge of students. Brown (2003) also highlighted that teaching shall not be effective without assessments and feedback. Palomba and Banta (1999) defined assessment as "the systematic collection, review, and use of information about educational programs undertaken to improve learning and development" (p.4). In conclusion, assessing student progress entails testing the knowledge that students have acquired during the learning process, advancing knowledge, and receiving feedback on teaching while modifying the existing teaching strategies (Aouine, 2011; Ghahderijani et al., 2021). There are two main types of assessments: formative assessments and summative assessments.

2.3. Formative Assessments

Different universities use variety of methods to assess their students. Among all of that, formative assessments are the most commonly utilized method. To enrich the teaching and learning process, some of the universities adopt digital tools to facilitate formative assessments such as Socrative, moodle, etc. Some of the platforms have self-assessment techniques and they promote student performance while improving the student teacher satisfaction (Cosi et al., 2020). As per the highlights of Carrillo-De-La-Peña et al. (2009), a study conducted in Spain in the Health Science academic stream has concluded that formative assessments tend to result better academic performance. As Fukuda (2022) mentions, formative assessments have tended to bring more self-regulated learning skills within students in a Japanese university. The same study highlights the importance of utilizing formative assessments to achieve course learning and evaluation objectives in a course of study. However, during initial education periods, formative assessments were not widely used and has not been a popular method of assessment among teachers (Vlachopoulos & Makri, 2024). There are a number of graduates who have mentioned the extensive use of formative assessments during their courses of study (Hamodi et al., 2017). As per the findings of Morris et al., (2021), formative assessments play an important role in higher education and the research has bring to attention that formative assessments should be done with a proper constructive feedback which helps to bridge the gap in learning process. However, many

studies have concluded that formative assessments are not the only effective way to test a student and there should be a balance between both formative and summative assessments.

As per the findings of Cosi et al. (2020), formative assessments cannot stand alone to improve learning processes. Also, it is identified that formative assessments cannot be said as more-effective, but need to be utilized with proper feedback for better outcomes (Carrillo-De-La-Peña et al., 2009). According to the results of a research conducted by Fukuda et al. (2022), there have been a considerable set of students who have not yielded the best results out of formative assessments. Additionally, some students and related parties have expressed their distress and displeasure towards formative assessments due to variety of unspecified reasons (Hamodi et al., 2017). However, according to the findings of literature, formative assessments have a significant impact on the higher education of the learning and teaching process and several studies have identified different types of formative assessments.

Multiple Choice Questions (MCQs): Plenty of studies, specifically in the health sciences, have the multiple-choice questions as part of formative assessments in learning process. They are usually conducted by universities in the mid-term or mid-semester and are intended to give immediate feedback for students before the warmth of the exam is over. This practice helps students to learn from the mistakes and mould themselves correctly as per the feedback before the final exams (Carrillo-De-La-Peña et al., 2009).

Short Answer Questions: In addition to the MCQs, another frequent method of assessing learners under formative assessments is short answer questions. It opens up opportunities for students to accurately answer and comprehends subject matters (Carrillo-De-La-Peña et al., 2009).

Quizzes: As a low-stakes formative assessment tool, quizzes are commonly given to the students. They are well known for providing immediate feedback since extensive marking need not happen and even electronic marking is possible. These can enhance the students' learning and help them retain important learning information (Morris et al., 2021).

Apart from these, the following formative assessments are practiced by the concerned academic institution in Sri Lanka as identified by the module descriptors of the degree programmes;

1. MCQ Quiz

2. True and False Questions online based

3. In-class Presentations

4. In-class case studies

5. Structured Reports

6. Role Plays

7. Mid-term test written exam

8. Jigsaw activity

9. Group activities

10. Individual activities

2.4. Summative Assessments

Summative assessments can be considered as one of the most popularly practiced methods of student evaluation used in Sri Lanka almost in almost every school and university (Ismail & Rahul, 2022). Summative assessments are supposed to analyze the students' achievements at the end of a learning period (Harlen, 2005). It is a reflects the actual in-class learnings of the students.

As per the findings of Glazer (as cited by Ismail et al., 2022), "summative assessment is generally applied to give learners a numerical score with limited feedback." (p.2). Cizek (2010) has brought into light that , for the summative assessments to take place, as any evaluation type, it should be at the end of the delivery of a particular subject and after all sessions are completed. Summative assessments are conducted to measure the performance of students to evaluate their overall understanding of a respective subject. An outcome of summative assessments can be a certification, grading, evaluation and a research finding on how effective the learning-teaching processes has been and how effective the curriculum has been along with learning-teaching process (Cizek, 2010).

Black and Wiliam (2006) elaborates that summative assessments can be utilized in instances to evaluate students' overall knowledge and understanding about a subject/discipline, for an example, an evaluation occurs only after the learning has been completed and it gives a proper feedback and information which can summarize the impact of the learning-teaching process. However, formal learning cannot occur at this level, except for incidental learning which can appear when completing certain tasks and projects (Wuest & Fisette, 2012). Generally, the evaluations in summative assessments are usually given by the end of a teaching-learning term for the purpose of assessing student learning (Abeywickrama & Brown, 2010; Liu et al., 2021; Rezai et al., 2022).

Moreover, according to the findings of Woods (2015), summative assessments evaluate the overall effectiveness of lectures, whereas formative assessment help to further enhance them. As per the findnigs of Shepard (2006), a summative assessment should match its prime function of in terms of, documenting what students know and what they can do, but, in case if it is carefully crafted, it should also effectively fulfill a secondary objective of learning support. Brown (2003), brings into attention the point, that the goal of summative assessment is to measure or summarize what students have learned, so this basically entails looking back and taking stock of how well students have reached their goals. However, it does not necessarily clear the way for future improvement. Though the summative

assessment embody an important constituent in students' evaluation, it is not adequate to comprehend the progress they have made or to undersatnd where they are weak in, which simply explains the nature of formative assessment (Pinchok & Brandt, 2009; Vadivel et al., 2021).

The following types of summative assessments are practiced by the concerned university in Sri Lanka as identified by module descriptors:

1. End-term final exam paper with essay questions

2. End-term MCQ paper

3. End-term final exam paper with MCQ and essay questions

4. End-term reflection report

2.5. Perceived Effectiveness of Assessments

Perceived effectiveness refers to students' subjective evaluation of how well different assessment methods support their learning, motivation, and understanding of course content. In higher education, students' perceptions of assessment practices significantly influence their engagement and academic behavior, making it an important construct for evaluating assessment quality. Brown (2003) notes that when students view assessments as fair, transparent, and aligned with learning outcomes, they are more likely to invest effort and demonstrate improved performance. Perceptions of effectiveness are shaped by the extent to which assessments provide clarity, constructive feedback, and opportunities for reflection (Nicol & Macfarlane-Dick, 2006). Formative assessments, in particular, are often perceived as more effective because they offer continuous feedback that helps students identify weaknesses and make timely improvements (Hattie & Timperley, 2007). Summative assessments, while essential for evaluating mastery, are perceived as effective when they accurately measure learning and contribute to students' sense of accomplishment (Harlen, 2005).

Research further suggests that positive perceptions of assessment methods enhance learners' motivation and deepen their engagement with course material (Ismail et al., 2022). In this study, perceived effectiveness plays a central role because it directly influences learning effectiveness and shapes how students respond to both formative and summative assessment systems. Understanding students' perceptions can therefore guide educators in designing assessments that meaningfully support learning..

2.6. Learning Fondness

In simple terms, learning fondness refers to a student's enduring preference and affective inclination toward learning and academic content, rather than a situational state or performance belief. As noted by Adamson (2024), learning fondness is positively associated with student-centred learning

approaches, emphasizing the importance of instructional and assessment practices that align with students' interests and learning preferences. Unlike motivation or engagement, which are often outcomes of instructional design learning fondness functions as an antecedent affective orientation that shapes how students perceive, accept, and respond to different assessment types. When students genuinely like what they learn, assessments are more likely to be perceived as meaningful rather than compulsory, thereby enhancing their learning effectiveness.

Furthermore, learning fondness fosters enthusiasm, sustained involvement, and self-commitment to the learning process, while supporting higher-order skills such as critical thinking and collaboration (Adamson, 2024). Nakioba and Kasagga (2020) further argue that learning fondness creates emotional ties to academic courses, strengthening students' intrinsic connection to learning beyond task completion or performance expectations. This emotional attachment enhances retention, comprehension, and reflective learning, which are central to assessment effectiveness. In the Sri Lankan private university context, where assessment practices are often perceived as examination-driven learning fondness provides a contextually relevant lens to explain why identical assessment types may yield varying learning outcomes among undergraduates. Therefore, positioning learning fondness as a moderating variable offers a meaningful and novel contribution by capturing the affective–cultural dimension through which assessment types influence learning effectiveness..

2.7. Learning Effectiveness

Learning effectiveness has been widely examined within higher education as an indicator of how well students achieve intended learning outcomes, develop relevant competencies, and apply acquired knowledge in academic or real-world contexts. Biggs and Tang (2011) assert that learning effectiveness reflects not only performance on assessments but also deeper cognitive processes such as critical thinking, conceptual understanding, and the transferability of knowledge. In the context of university learning, effective learning is influenced by pedagogical design, assessment methods, learner motivation, and the extent to which learning opportunities encourage active engagement and reflection (Garrison & Cleveland-Innes, 2005). As educational environments increasingly shift toward student-centered learning, understanding the drivers of learning effectiveness has become essential for improving academic outcomes and enhancing teaching practices.

A significant body of literature highlights the role of assessments in shaping learning effectiveness. Nicol and Macfarlane-Dick (2006) argue that formative assessments contribute strongly to learning effectiveness by providing timely, constructive feedback that enables learners to reflect on their performance, identify gaps, and adopt corrective strategies. This process aligns with constructivist principles by promoting active knowledge construction and continuous refinement of understanding (Vygotsky, 1978). Studies have consistently demonstrated that formative assessments, when designed with feedback mechanisms, improve students' metacognitive abilities, enhance retention, and

encourage deeper engagement with learning materials (Hattie & Timperley, 2007). These findings resonate with the empirical results of the present study, which revealed a strong positive relationship between the perceived effectiveness of formative assessments and learning effectiveness.

Summative assessments also contribute to learning effectiveness, though in different ways. Harlen (2005) explains that summative evaluations serve to measure students' mastery of learning outcomes and consolidate learning by requiring the synthesis and application of knowledge. Brown and Glasner (1999) further note that when summative assessments are well-aligned with course objectives and include reflective components, they can reinforce long-term understanding and support curriculum coherence. However, the literature suggests that summative assessments alone are insufficient in fostering continuous learning, emphasizing the importance of balancing summative evaluation with formative opportunities to maximize learning effectiveness.

Motivational and affective factors also play a crucial role in determining learning effectiveness. Pintrich (2003) highlights that students with higher intrinsic motivation demonstrate greater perseverance, employ deeper learning strategies, and achieve stronger academic outcomes. Self-regulated learning theory similarly emphasizes that learners' emotional engagement influences how they process information and respond to academic demands (Zimmerman, 2002). This aligns with the findings of the current study where learning fondness an affective construct reflecting students' interest and enjoyment in learning showed a significant direct relationship with learning effectiveness. Such findings reinforce the notion that cognitive, behavioural, and emotional dimensions collectively shape effective learning.

2.8. Learning Effectiveness
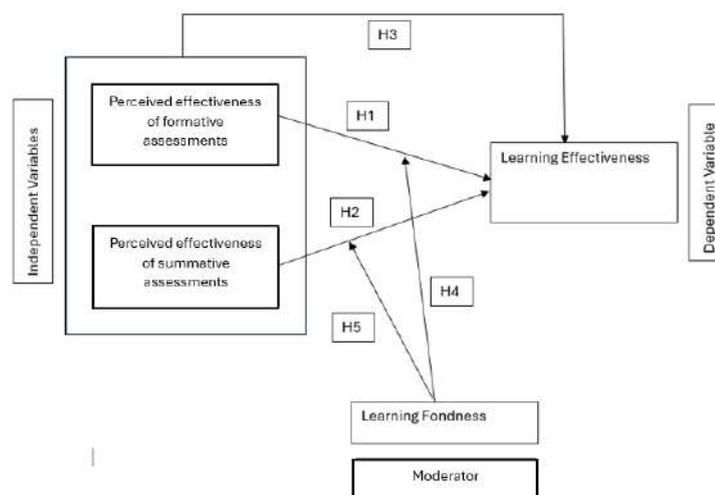
Figure 1: Conceptual Framework

This study seeks to examine how different types of assessments influence university students' learning fondness and overall learning effectiveness. The independent variables in this research are categorized as perceived effectiveness of formative assessments (e.g., quizzes, multiple-choice questions) and perceived effectiveness summative assessments (e.g., examinations, project work). The moderating variable, learning fondness, reflects students' preferences, motivation, and enthusiasm toward learning, which are shaped by the assessment methods they encounter. It serves as a moderator because it is affected by the type of assessment and, in turn, influences learning effectiveness. The dependent variable, learning effectiveness, refers to students' perceived ability to grasp and retain knowledge, typically reflected in academic performance or the development of relevant skills.

For this study hypothesis can be derived as given below, .

H1:There is a significant impact of the Perceived Effectiveness of Formative Assessments on Learning Effectiveness.

H2:There is a significant impact of the Perceived Effectiveness of Summative Assessments on Learning Effectiveness.

H3:Learning Fondness has a significant impact on Learning Effectiveness.

H4:Learning Fondness significantly moderates the relationship between the Perceived Effectiveness of Summative Assessments and Learning Effectiveness.

H5:Learning Fondness significantly moderates the relationship between the Perceived Effectiveness of Formative Assessments and Learning Effectiveness.

3. Methodology

3.1. Research Design and Approach

Guided by a positivist research philosophy (Saunders et al., 2019), this study adopted a quantitative, deductive research approach to examine the relationships between assessment types, learning fondness, and learning effectiveness. The study sought to test hypothesized relationships derived from existing literature using measurable variables and statistical analysis. A mono-method quantitative survey strategy was employed, enabling objective examination of patterns and relationships among the study variables. Data were collected at a single point in time, making the study cross-sectional in nature.

This design is particularly suitable within the Sri Lankan private university context, where assessment practices are relatively structured, lecturer-led, and often examination-oriented. Given existing power

dynamics between lecturers and students, a questionnaire-based approach provided participants with a less intrusive and anonymous means of expressing perceptions, thereby supporting more candid responses.

3.2. Instrument Development and Validation

Data were collected using a structured self-administered questionnaire developed based on established measures from prior studies (see Operationalization Table 1). The instrument comprised Likert-scale items assessing perceived effectiveness of formative and summative assessments, learning fondness, and learning effectiveness. Items were adapted to reflect institutional assessment practices commonly used in Sri Lankan private universities, such as continuous assessments, in-class activities, assignments, mid-semester tests, and final examinations.

To ensure content and face validity, the questionnaire items were reviewed by subject experts in higher education and assessment prior to data collection. A pilot test was conducted with a small group of undergraduate students who were not part of the final sample to assess clarity, wording, and relevance of the items. Minor revisions were made based on feedback. The internal consistency of the constructs was later assessed using Cronbach's alpha, with values meeting accepted thresholds, confirming the reliability of the measurement instrument.

3.3. Population and Sampling

The study population consisted of undergraduate students enrolled in multiple degree programmes across different faculties at the selected private university in Sri Lanka. This setting was chosen due to its diverse student body, standardized assessment structures, and strong emphasis on academic performance and employability outcomes.

A simple random sampling technique was applied to minimize selection bias and ensure representation across academic years and disciplines (Pinchok & Brandt, 2009). Several batches were randomly selected, and students were invited to participate voluntarily. A total of 125 valid responses were obtained. Participation was anonymous, and ethical considerations were observed, particularly given the hierarchical nature of lecturer–student relationships in Sri Lankan higher education institutions.

3.4. Data Collection Procedure

The questionnaire was distributed electronically during the academic semester. Participants were informed of the study's purpose, assured of confidentiality, and advised that their responses would not

affect their academic standing. This approach helped mitigate potential response bias arising from institutional power structures and assessment-related sensitivities.

3.5. Data Analysis

Data analysis was conducted using statistical software. Descriptive statistics were first used to summarize respondent characteristics and variable distributions. Correlation analysis was performed to examine initial relationships among variables, followed by multiple regression analysis to test the direct effects of formative and summative assessments and learning fondness on learning effectiveness.

To test the moderating effect of learning fondness, moderation analysis was conducted using hierarchical regression. Prior to creating interaction terms, the independent variables and the moderator were mean-centered to reduce multicollinearity and improve interpretability of the interaction effects. Interaction terms were then computed and entered into the regression model. Statistical significance was evaluated using standard criteria.

This analytical approach allowed the study to capture not only the direct influence of assessment types but also how students' affective orientation toward learning shapes their responses to different assessment practices within a private university setting.

Table 1: Operationalization

Construct	Statement	Reference
Perceived Assessment Effectiveness	Summative assessments accurately reflect my knowledge of the subject	Harlen et al., 2005
	The feedback from summative assessments is helpful for my future learning	Cizek, 2010
	Summative assessments motivate me to study harder for exams	Black & Wiliam, 2006
	The variety of summative assessment types used in my courses keeps me engaged in learning	Ismail et al., 2022
	I receive constructive feedback from formative assessments that improves my learning	Hwang et al., 2008
	Formative assessments help me understand course material better.	Glazer, 2014
	I believe that formative assessments enhance my critical thinking skills	Morris et al., 2021

	I find formative assessments to be less stressful than summative assessments.	Ahmed et al., 2019
Learning Fondness	I enjoy participating in formative assessments (e.g., quizzes, presentations	Adamson, 2024
	I feel more fond of subjects that utilize diverse assessment methods	Nakijoba & Kasagga, 2020
	My interest in a subject increases when I receive regular formative feedback	Popham, 2008
	I prefer courses that include both formative and summative assessments	Heritage, 2012
	I am more motivated to learn when I can see my progress through formative assessments	Fukuda, 2022
	Summative assessments make me feel anxious about my performance in a course	Wuest & Fisette, 2012
	I feel a sense of accomplishment after completing formative assessments successfully	Carrillo-De-La-Peña et al., 2009
Learning Effectiveness	My overall learning effectiveness improves with regular formative assessments throughout the course	Cosi et al., 2020
	I believe that my learning effectiveness is higher when I receive timely feedback on assignments and tests	Brown, 2003
	The structure of summative assessments helps me prepare better for final evaluations	Liu et al., 2021
	I can apply what I learn from formative assessments to real-world situations effectively	Abeywickrama & Brown, 2010
	My engagement with course material increases when I know there will be formative assessments throughout the semester	Pinchok & Brandt, 2009
	I often reflect on my performance in formative assessments to improve my study habits	Vadivel et al., 2021
	Summative assessments provide a clear picture of what I have learned over the course duration	Woods, 2015

4. Results and Discussions

4.1. Frequency Analysis

To provide a more comprehensive insight into the sample profile, an analysis was undertaken utilizing descriptive statistics for each demographic variable. In order to present a detailed overview of the sample composition, the frequencies and corresponding percentages for each individual variable have been illustrated in Tables 2,3 and 4.

Table 2. Gender

Gender	Frequency	Percent
Male	67	53.6
Female	58	46.4
Total	125	100.0

Table 2 demonstrates an overview of the gender distribution within the sample. According to frequency column, out of 125 respondents, 67 and 58 respondents are accounted for male and female respectively. This data underscores the prevalence of male respondents, constituting a substantial 53.6 percent of the total respondent pool.

Table 3. Age Group

Age group	Frequency	Percent
16-20 years	12	9.6
21-25 years	107	85.6
Above 25	6	4.8
Total	125	100.0

Table 3 represents an view of the age distribution within the sample. Remarkably, the age group 21-25 was found to have the highest number of respondents, comprising 53 individuals out of the total 125 respondents, as revealed by the frequency column and which is accounted for a substantial 85.6 percent of the total respondents. Conversely, the lowest percentages 9.6 percent and 4.8 percent are attributed to the age groups 16-20 and above 25 respectively.

Table 4. Academic Year

Academic year	Frequency	Percent
1st year	4	3.2
2nd year	30	24.0
3rd year	2	1.6
4th year	89	71.2
Total	125	100.0

Table 4 provides an insight into the academic year of the respondents. Notably, academic year 4 found to have the highest number of respondents of a 89, accounting for a 71.2 percent. Consequently, the second highest number of respondents are from academic year 2, accounting for 24 percent of the total pool. From academic year 1 and 2, there is only 4 and 2 responses have been recorded, accounting for 3.2 percent and 2.6 percent respectively.

4.2. Reliability Analysis

Reliability analysis was conducted to examine the internal consistency and stability of Likert scale data, to test whether the items within these instruments consistently produce similar results over repeated measurements. Refer Table 5.

Table 5. Reliability Analysis

Variable	Cronbach's Alpha	Items
Perceived Effectiveness of Summative Assessments	.790	4
Perceived Effectiveness of Formative Assessments	.843	4
Learning Fondness	.908	7
Learning Effectiveness	.908	7

According to the reliability analysis, the Cronbach's Alpha value of four variables of this study, which have been measured through Likert scale; Perceived Effectiveness of Summative Assessments, Perceived Effectiveness of Formative Assessments, Learning Fondness and, Learning Effectiveness are

0.790, 0.843, 0.908 and 0.908 respectively. As all the values are greater than 0.5, it signifies that the items of each of the scales are having internal consistency. Since the Cronbach's Alpha for Learning fondness and Learning effectiveness are greater than 0.9, which indicates an excellent reliability.

4.3. Correlation Analysis

Correlation analysis was conducted to examine the strength and direction of the potential linear relationship between variables. The direction and the strength of the relationship can be measured using the coefficient of Pearson Correlation. Further, to assess whether the correlation between variables is significant, the P-value (significant value) is being used, and it should be less than 0.05. Refer Table 6,

Table 6. Correlation Analysis

		PAE_S	PAE_F	LE
LE	**Pearson Correlation**	.611**	.801**	1
	Sig. (2-tailed)	.000	.000	
	N	125	125	125

According to the correlation analysis, P value of the relationship between PAE_S and LE is 0.000, which is highly significant. Coefficient of correlation is 0.611 and which indicates that PAE_S and LE are positively correlated. Hence, there is a highly significant and moderately positive relationship between Perceived effectiveness of summative assessments and Learning effectiveness. Which indicates that, higher Perceived effectiveness of summative assessments, higher the Learning effectiveness and vice versa.

P value of the relationship between Loan PAE_F and LE is 0.000, which also highly significant. The coefficient of correlation is 0.801 and it implies that, there is a strong positive correlation between PAE_F and LE. Hence, there is a highly significant and strong positive relationship between Perceived effectiveness of formative assessments and Learning effectiveness. Which indicates that, higher Perceived effectiveness of formative assessments, higher the Learning effectiveness and conversely.

4.4. Regression Analysis

The Multiple regression analysis was conducted to measure the explanatory power of the independent variables against dependent variables. Basically the purpose was to ascertain the cause-effect of one variable upon another as an extension of the correlation analysis performed earlier. Refer Table 7

4.4.1. Model Summary

Table 7. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.823ᵃ	.677	.672	.561	1.853

The model summery serves the purpose of evaluating goodness of the model and the extent to which the model is fit. Accordingly, the Coefficient of Determination (R^2) measure the proportion of the variance in the dependent variable that is explained by the independent variables. According to the model summary, R^2 value is 0.677. This signifies that, out of Learning effectiveness 67.7 percent has explained by the two independent variables which have been employed in the study. Accordingly, 67.7 percent of the variance in Learning Effectiveness can be explained by those two independent variables. Since the R^2 is more than 60 percent, model is nicely fitted.

Multiple Correlation (R) quantifies the strength and direction of the linear relationship between the dependent variable and the collection of independent variables in the model. As depicted in the table, R value is 0.823 and which indicates that the independent variables are jointly correlated with Learning effectiveness. There is a strong relationship between independent variables and dependent variable.

The Durbin Watson (DW) test statistics is utilized to check whether the assumption of independency of residuals is met. As shown in the table 6, DW test statistic is 1.853. Since the value lies between 1.5 – 2.5, which indicates that the residuals are independent. In other words, the residuals are not correlated. Hence we can conclude that the model is appropriate.

4.4.2. ANOVA

Table 8. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.365	2	40.182	127.829	.000ᵇ
	Residual	38.350	122	.314		
	Total	118.714	124			

As indicated in Table 8, according to the Regression ANOVA, the probability of F statistics is 0.000 and which indicates that model is jointly significant. It indicates that all the independent variables jointly influence on Learning Effectiveness. Therefore, it is worthwhile to note that, Perceived

effectiveness of summative assessments and Perceived effectiveness of formative assessments are jointly influence on the Learning Effectiveness.

4.4.3. Coefficients

Table 9. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.452	.185		2.437	.016		
PAE_S	.241	.065	.230	3.685	.000	.678	1.476
PAE_F	.568	.053	.670	10.716	.000	.678	1.476

According to the individual coefficients (Table 9), P value of PAE_S is 0.000, which indicates that the result is highly significant. Further, the beta value of PAE_S is .241. Therefore, it is important to note that, the PAE_S has a highly significant positive impact on LE. Based on above conclusion we can accept the H1, which was developed earlier. (H1: There is a significant relationship between the Perceived effectiveness of summative assessments and Learning Effectiveness)

P value of the PAE_F is also 0.000, which indicates that the result is highly significant. Further, the beta value of PAE_F is .568 and It suggest that, PAE_F has a highly significant positive impact on LE. Based on above conclusion we can accept the H2, which was developed earlier. (H2: There is a significant relationship between the Perceived effectiveness of formative assessments and Learning Effectiveness)

According to the standardized coefficient of beta, the highest value is having for PAE_F, which is 0.67. Therefore, the most influencing factor is the Perceived effectiveness of formative assessments on Learning effectiveness.

By shifting the focus to collinearity statistics, the VIF values for both independent variables are less than 10. Alternatively, the tolerance values for aforementioned variables are more than 0.1. Therefore, is important to note that the independent variables are not perfectly correlated.

4.5. Moderator Regression Analysis

Two moderator regression models has been employed to identify whether there is any moderating impact created by the Learning fondness on the relationship between PAE_S and LE, and between PAE_F and LE. The results are given below.

4.5.1. Interaction effect of Leaning fondness and Perceived effectiveness of summative assessments

Table 10. Moderator Regression 1

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.195	.171		1.139	.257
	PAE_S	.275	.055	.263	4.985	.000
	LF	.669	.050	.702	13.305	.000
	MV1_LFxS	.063	.045	.065	1.411	.100

According to the moderator regression (Table 10) coefficient results, the P value of moderator variable LF is 0.100. This is marginally significant. It indicates that Learning Fondness marginally moderates the relationship between Perceived effectiveness of summative assessments and Learning effectiveness. Therefore, we can accept the H3, which was developed earlier (H3: There is a moderating impact of Learning Fondness on the relationship between Perceived effectiveness of summative assessments and Learning Effectiveness).

4.5.2. Interaction effect of Leaning fondness and Perceived effectiveness of formative assessments.

Table 11. Moderator Regression 2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.447	.149		3.002	.003
	PAE_F	.345	.057	.407	6.059	.000
	LF	.508	.062	.533	8.194	.000
	MV2_LFxF	-.009	.046	-.009	-.202	.840

Based on the above results, the P value of moderator variable LF is 0.840. This is insignificant. It indicates that Learning fondness does not have any moderating effect on the relationship between Perceived effectiveness of formative assessments and Learning effectiveness. (H4: There is a moderating impact of Learning Fondness on the relationship between Perceived effectiveness of formative assessments and Learning Effectiveness).

5. Implications of the Study

The current study builds upon previous research that has explored the effects of formative and summative assessments on academic motivation and attitudes toward learning (Ismail et al., 2022), students' perceptions of formative assessment effectiveness (Ogange et al., 2018), and how assessments contribute to knowledge development prior to classroom engagement (Todorova, 2004).

This research offers valuable insights for improving educational practices, particularly within Sri Lankan university settings. By examining the relationship between students' learning preferences and the effectiveness of various assessment types, the study underscores the importance of incorporating diverse assessment strategies. The integration of engaging formative assessments such as quizzes, presentations, and group work can significantly boost student motivation and engagement, ultimately leading to enhanced academic performance.

Moreover, this study reinforces the notion that assessments should serve not only to evaluate students' knowledge but also to enrich the learning experience by fostering voluntary and meaningful student participation. The findings can inform curriculum revisions and promote feedback mechanisms that support continuous improvement in teaching and learning processes. These strategies can be extended beyond universities to school-level education as well. When assessment practices align with students' learning fondness, institutions can enhance both educational outcomes and student satisfaction.

6. Limitations and Avenues for Future Research

This conceptual study aims to explore how various assessment types influence students' learning fondness, ultimately contributing to their learning effectiveness. However, the study presents several limitations. It adopts a cross-sectional design, relies on a convenience sampling method, and is confined to a single private university, with data collected from a limited range of subject disciplines.

Although cross-sectional in nature, future research could adopt a longitudinal approach to examine how different assessment methods impact long-term learning outcomes, knowledge retention, and overall academic performance. Additionally, the scope of future studies could be broadened by

comparing different types of educational institutions, such as private vs. state universities, or even expanded to international contexts to test the consistency of findings across diverse academic environments.

While this study does not target a specific academic field, focusing instead on general academic assessments, future researchers could investigate discipline-specific effects to better understand how formative and summative assessments function across varied academic domains. Furthermore, future research could examine the role of digital assessment tools, the influence of teacher feedback on different assessment types, and sociocultural factors, such as cultural perceptions of education and students' preferences for assessment styles.

7. Conclusion

This study examined the impact of the perceived effectiveness of formative and summative assessments on learning effectiveness, while exploring the moderating role of learning fondness among undergraduates in a Sri Lankan private university. The findings underscore the pivotal role of assessment design in shaping students' learning experiences. Formative assessments emerged as the strongest predictor of learning effectiveness, highlighting their capacity to provide continuous feedback, promote self-regulated learning, and encourage deeper cognitive engagement. Summative assessments also demonstrated a significant positive effect, suggesting that well-structured final evaluations contribute meaningfully to knowledge consolidation. Learning fondness showed a strong direct influence on learning effectiveness, reaffirming the importance of affective dimensions in academic learning. Although learning fondness marginally moderated the relationship between summative assessments and learning effectiveness, no moderating effect was observed for formative assessments, indicating that the benefits of formative assessment remain robust regardless of students' affective orientation toward learning.

Importantly, the consistency and clarity of these relationships suggest that the proposed model has the potential to yield greater explanatory power if replicated across different institutional types, disciplines, and cultural contexts. Repeating this study in other higher education settings both within and beyond Sri Lanka—could strengthen the empirical evidence base and enhance the generalizability of the findings, thereby contributing to a more universal understanding of how assessment design and affective learning orientations interact to influence learning effectiveness. Overall, this study advocates for a balanced assessment strategy that integrates frequent formative activities with meaningful summative evaluations, offering insights that are not only contextually relevant but also transferable to broader higher education environments.

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Bias-Driven Investing: An Empirical Study of Behavioral Factors Affecting Investor Decisions in the Colombo Stock Exchange – Sri Lanka

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Abstract

Investment decisions made by individual investors are often influenced by psychological and emotional factors rather than purely rational analysis, which can lead to hesitation, reduced trading activity, and unfavourable investment outcomes. This study is motivated by the observation that such behavioural tendencies contribute to the low participation of individual investors in the Colombo Stock Exchange (CSE), despite the availability of financial information and increasing financial literacy in Sri Lanka. Accordingly, the study investigates the influence of key behavioural biases, such as herding, representativeness, overconfidence, regret aversion, and loss aversion, on individual investment decision-making. A cross-sectional research design was employed, and primary data were collected from 358 individual investors using a structured questionnaire distributed through convenience and snowball sampling methods. The data were analysed using multiple linear regression techniques with SPSS to examine the proposed relationships. The results indicate that all selected behavioural biases have a significant and positive influence on investment decision-making, highlighting the critical role of behavioural factors in shaping investor behaviour in an emerging market context. These findings extend the existing behavioural finance literature by providing empirical evidence from Sri Lanka and offer practical implications for policymakers, financial institutions, and investor education programmes aimed at improving decision quality, reducing bias-driven hesitation, and encouraging more active and informed participation in the stock market.

1. Introduction

Investments are crucial for growth: foreign and domestic investments shall play a critical role in sustaining the country's high economic growth rate. Such intentions provide grounds for sustainable development goal eight; decent work and economic growth, of the UN. However, stock market investments in Sri Lanka (SL) are considerably small compared to investments in financial institutions. Considering an important barometer of economic stability, the stock market enables the transfer of resources from surplus units to deficit units, thereby providing the necessary catalytic economic growth (Rahman, 2006). It has been continuously noted that public participation in the stock market in SL, despite its importance, is low. The primary stock exchange in SL, the CSE, was established in 1985 to facilitate stock, bonds, and securities transactions. Thus, it plays an important economic role by creating an avenue for investments in securities of publicly listed companies enabling economic activities. The stock market has historically generated higher returns, yet participation by investors remains low. According to the recent data in 2022, only 3.98% of SL's working-age population engaged in stock trading with individual investments in the stock market contributing a mere 0.135% of GDP. In contrast, savings in commercial banks accounted for 15.38% of GDP (CSE, 2022; Central Bank of Sri Lanka, 2021). This trend mirrors patterns in neighboring countries, such as India, where just 10% of household earnings are invested in the securities market (Mishra, 2018). It is observed that psychological factors, fears of unfavorable outcomes, and distrust in the market seem to deter participation in the stock market. Thus, it becomes important for the government and regulators to reduce these constraints to encourage investment, which is one aspect that needs serious consideration as economic development takes on in SL.

While traditional theories like the Efficient Market Hypothesis (EMH) and Modern Portfolio Theory (MPT) propose that investor decisions follow rationality through selection of a course of action after a thorough evaluation of alternative options (Venkatapathy & Sultana, 2016), behavioural finance studies the actual investor behaviour will be deviated from this so-called rationality. Thus, behavioural finance examines how psychological and sociological factors influence investment decisions. Overconfidence, herd behaviour, loss aversion, regret aversion, and consideration of dominance represent some biases that cause inefficiency in the market. Although abundant information is available, human judgments can still be influenced by their inherent self-interests, affecting the decision-making process and ultimately contributing to increased market volatility (Perera & Gunathilaka, 2021).

While the accessibility of financial literacy in SL advances upto 57.9% in 2022 (Central Bank of Sri Lanka), the public has avoided participating in stock trading. It explodes the preference for traditional savings over investment in stocks. This might be due to some behavioural biases in the decision-

making of individuals. Even during trading, investor is beset by errors based on emotional and cognitive factors, leading to bad decisions and outcomes.

A vast body of psychological literature indicates that individuals tend to make consistent errors in their thinking (Ahmed, 2022; Faulkner, 2002; Shefrin & Thaler, 1988). Emotional and cognitive biases such as overconfidence, herding, regret aversion, loss aversion, and representativeness significantly impact investment decisions. Such tendencies may lead to distortions in decision-making and result in suboptimal investment strategies. For example, herding bias may cause individuals to follow the crowd rather than make independent decisions, while overconfidence often leads to excessive risk-taking (Ahmed & Wu, 2022; Biais et al., 2005). Behavioural finance endeavors to explore the psychological and sociological factors that impact the decision-making process of both individual and institutional investors in the realm of investments.

Despite the recognised importance of stock market participation for economic growth, individual investor involvement in the Colombo Stock Exchange remains limited, raising concerns about the factors influencing investment decision-making beyond traditional financial explanations (Kengatharan, 2014; Ranawakage et al., 2021). While classical finance theories assume rational behaviour, growing evidence suggests that psychological biases play a decisive role in shaping investor choices, particularly in emerging markets. However, existing literature provides limited and inconsistent evidence on how multiple behavioural biases jointly influence individual investment decisions in Sri Lanka. This study seeks to address this research problem by empirically examining the impact of herding, representativeness, overconfidence, regret aversion, and loss aversion on individual investment decision-making in the Colombo Stock Exchange. By offering a comprehensive analysis within an emerging market context, the study contributes to behavioural finance literature and provides practical insights for policymakers, regulators, and financial institutions seeking to design interventions that encourage informed and confident investor participation..

2. Literature Review

2.1. Investor Behaviour

An investment involves committing current funds with the expectation of future returns that compensate for the time value of money, anticipated inflation, uncertainty of future payments, and associated risks (Wallingford & Reilly, 1979). Traditional finance theories, such as the Efficient Market Hypothesis and Modern Portfolio Theory, assume that investors act rationally by weighing potential gains and losses to make optimal decisions (Ahmad, 2017; Phan et al., 2023). For such rational decision-making, investors are expected to have access to all relevant information, analyze it effectively, and think clearly and logically (Metawa et al., 2019; Sabir et al., 2021).

However, empirical evidence shows that investment decisions are also influenced by demographic factors (e.g., age, gender, education, religion), economic conditions, and financial factors (Mishra, 2018; Sabir et al., 2021; Sivaramakrishnan et al., 2017). Beyond these, behavioural finance highlights the role of psychological and cognitive biases in shaping investor choices, challenging the assumption of full rationality proposed by conventional finance theories (Hu et al., 2019), (Humra, 2016)..

2.2. Irrational Investment Decisions

While traditional finance assumes rational decision-making, behavioural finance literature provides substantial evidence that investors frequently deviate from rational behaviour, particularly under conditions of uncertainty and risk. In emerging economies, behavioural biases are especially prevalent, influencing investors to make suboptimal decisions such as excessive risk-taking, delayed selling, and trend-following. Numerous market anomalies cannot be fully explained by conventional finance theories, prompting behavioural psychologists and finance scholars to investigate the psychological foundations of investor behaviour. Empirical studies consistently document patterns of irrationality, inconsistency, and judgment errors among investors, highlighting the role of cognitive and emotional factors in shaping financial decisions (Hossain & Siddiqua, 2022). Behavioural finance integrates these insights with traditional economics to explain how such biases contribute to inefficiencies in financial markets.

2.3. Behavioural Finance: Theoretical Foundation

Behavioural finance is rooted in the seminal work of Kahneman and Tversky, whose Prospect Theory demonstrates that individuals evaluate gains and losses asymmetrically and exhibit heightened sensitivity to losses, challenging the assumption of rational decision-making (Kahneman & Tversky, 1979). Their research on heuristics and biases further explains how cognitive shortcuts such as representativeness systematically distort judgment under uncertainty (Tversky & Kahneman, 1974). Extending these insights, (Thaler 1980, 1999) incorporated psychological principles into financial economics, highlighting phenomena such as mental accounting and market inefficiencies. Together, these foundational theories underpin the examination of behavioural biases, including herding, overconfidence, regret aversion, and loss aversion, in investment decision-making.

Building on these foundational contributions, the field of behavioural finance attempts to comprehend and anticipate the repercussions of psychological decision-making specifically related to behavioural trends and biases (Olsen, 1998). (Swell, 2005) described the behaviour of financial practitioners, and the following impact on financial markets is explored by behavioural finance through psychological factors. Moreover, he added how a market can be inefficient due to not being rational and how behavioural finance becomes a challenge for EMH. The supportive theories for behavioural finance are reviewed in this section. The foundation of behavioural finance theories is cognitive psychology, which asserts that human decision-making is subject to several cognitive illusions. Under prospect

theory, cognitive illusions can be divided into two groups: those that are the result of making heuristic choices and those that are the outcome of cognitive framing. (Waweru et al., 2008) explain that behavioural biases arise from both categorisations. On top of that, (Faulkner, 2002) points out that significant behavioural finance aspects are related to prospect theory, regret and cognitive dissonance when making a decision.

Heuristic Theory: The term heuristics, which was originally introduced by (Kahneman and Tversky, 1974), are mental shortcuts that simplify decision-making in complex and uncertain situations. These shortcuts are often based on beliefs about the likelihood of uncertain events, shaping how individuals assess probabilities and outcomes (Kartini & Nahda, 2021). (Tversky and Kahneman, 1974) categorised heuristic biases into three types: representativeness, availability, and anchoring. Investors often make errors in decision-making by relying on rules of thumb to process information. While heuristic approaches can expedite the decision-making process, they may also lead to systematic biases or errors. A common example related to the representativeness heuristic is where people judge the likelihood of an event based on how closely it resembles typical examples. For instance, an investor might believe a new company will succeed simply because it looks like other successful startups, regardless of the actual statistical odds (Kahneman & Tversky, 1974).

Prospect Theory: Prospect theory by (Tversky & Kahneman, 1979) provides a psychological alternative to expected utility theory to explain decision-making under risk. According to (Kahneman, 2003), a person is more likely to gamble in anticipation of a gain than once faced with a potential loss. It has been underscored that investors change from being risk-averse for gains into risk-seekers for losses (Kishore, 2004). Scholars further looked into this conduct whereby some traders expect losses after gains, thereby becoming more risk-averse; conversely, some traders are inclined to take excessive risks

Regret Theory: Regret Theory, introduced by (Loomes et al., 1982), models decision-making under uncertainty by emphasising the emotional impact of comparing actual outcomes with forgone alternatives. (Bell, 1982) noted that regret arises when a chosen option performs worse than the one not taken, influencing future choices. In investment contexts, this explains why individuals anticipate regret over poor outcomes, leading to behaviours such as holding underperforming stocks and selling better-performing ones prematurely (Shefrin et al., 1985), (Aigbovo et al., 2019). (Kahneman, 1979) further highlights that regret is particularly intense near reference points, reinforcing cautious or corrective decision-making.

Cognitive Dissonance: The emotional turmoil that people experience when they are shown facts to contradict their assumptions or views is known as cognitive dissonance; as a result, it can be thought of as a type of regret over incorrect beliefs. Similar to the regret theory of cognitive dissonance, (Ferstinger, 1957) claims that people have a propensity to take actions that would not be regarded as entirely rational

to lessen cognitive dissonance. Goetzmann et al., 1997) have suggested that the same theory of cognitive dissonance could account for the phenomenon where money enters investments in mutual funds that have performed exceptionally well more quickly than it leaves mutual funds that have performed exceptionally poorly. This is because investors in lost funds are hesitant to face the fact that selling their investments would prove they made a poor investment.

Traditional finance theories assume that investors act rationally by fully processing available information (Ahmad, 2017; Phan et al., 2023); however, empirical evidence shows that investment decisions are also influenced by demographic, economic, and psychological factors (Mishra, 2018; Sabir et al., 2021). Behavioural finance, drawing on cognitive psychology, explains this deviation from rationality through systematic behavioural biases such as herding, representativeness, overconfidence, regret aversion, and loss aversion, which have been linked to irrational investment behaviours including excessive risk-taking, delayed selling, and trend-following (Olsen, 1998; Hu et al., 2019; Barberis & Thaler, 2003; Waweru et al., 2008). While this literature provides important insights, much of the empirical evidence examines these biases in isolation or within developed market contexts, limiting understanding of their combined and comparative effects on individual investment decision-making in emerging markets.

Collectively, the literature highlights the relevance of behavioural biases in shaping investment decisions while revealing gaps in understanding their relative and combined influence, particularly in emerging market environments characterised by uncertainty and volatility. Addressing this limitation requires an integrated empirical approach that examines multiple behavioural biases simultaneously within a specific market context.

2.4. Gap identification

Although behavioural finance literature has extensively documented the role of psychological biases in shaping investment decisions, the majority of empirical studies focus on developed markets or examine a limited number of biases in isolation (Barberis & Thaler, 2003; Kumar & Goyal, 2015). Evidence from emerging markets remains mixed, with inconsistencies in the strength and significance of individual behavioural biases (Waweru et al., 2008; Ranaweera & Kawshala, 2022).

Within the Sri Lankan context, existing studies have provided valuable insights into selected behavioural influences; however, the evidence remains fragmented, with limited emphasis on the combined and comparative effects of multiple behavioural biases on individual investment decision-making (Kengatharan & Kengatharan, 2014; Ranawakage et al., 2021). This limitation is particularly relevant given that, despite improvements in financial literacy and access to market information, individual participation in the Colombo Stock Exchange remains relatively low (Economic and Social

Survey, 2022), suggesting that behavioural factors beyond informational constraints continue to influence investor behaviour.

Accordingly, this study addresses this gap by providing a comprehensive empirical analysis of the relative and joint impact of herding, representativeness, overconfidence, regret aversion, and loss aversion on individual investment decision-making in the Colombo Stock Exchange, thereby extending behavioural finance literature and offering insights relevant to both theory and practice in an emerging market environment characterised by economic uncertainty and market volatility.

2.5. Hypothesis Development

Herding Bias and investment decision-making: Herding bias influences investment decision-making since individual investors tend to follow the rest, generally without much independent research. Previously, research suggested that herding is known to be more present among individual investors than institutional ones, particularly during market downturns (W. Kim & Wei, 2002; Goodfellow et al., 2009). Herding behaviour is often found among investors dealing in emerging markets and this bias can be highly observed when a group of investors make investment decisions based on collective information from a group of investors (Rahayu et al., 2020; Humra, 2014). Consequently, when the majority votes on the wrong decision it will impact a significant price deviation. Chen et al., (2007) stated that the herding bias is more prevailing in developing countries rather than the developed countries which has been validated for the SL context by Kengatharan & Kengatharan (2014) and Waweru et al. (2008). A study has observed that investors in SL often follow the majority, especially during times of high market uncertainty which can intensify market volatility (Kengatharan & Kengatharan, 2014). Yet it is noted that empirical evidence is contradictive even though they are tested in the same context. Kengatharan & Kengatharan (2014), Waweru et al. (2008), and Chandrasiri et al., 2021 revealed that herding bias has significantly influenced investment decisions whereas Ranaweera & Kawshala, (2022) stated insignificant impact. According to Shantha (2018), herding behaviour in SL's stock market has shown significant fluctuations over time while strongly evident during the Civil War and gradually decreased during the 2009-2018 period which constituted a stock market crisis, market bubble, and economic and political instability. Hence these findings underscore the necessity of investigating the relationship between herding and investor decision-making to better understand the nature of impact.

Hypothesis 1: Herding Bias has a significant influence on the Investment decision-making

Representativeness Bias and investment decision-making: Representativeness bias is when people tend to categorize new information based on their prior experiences and classifications. Various

discussions around behaviour finance and representativeness bias led to their testing on investment decision-making. According to research, this bias arises from people's tendency to attribute value to thoughts and objects to make sense of their experiences (Pompian, 2012; Agrawal, 2012). Representativeness bias could lead someone to end up making the wrong conclusion. For instance, investors may misattribute good characteristics of a company (eg: quality products, skilled managers, and high growth expectations (Chen et al., 2007) by overvaluing the company. Another implication of this bias that often occurs in financial markets is the belief that the best indicator of predicting future performance could be past performance (Frensidy, 2016). For instance, if a company reports high profits in consecutive years, investors tend to believe that this trend will persist, perceiving the company as successful and, therefore, a good investment. As a result, they tend to expect higher returns from stocks that have performed well in the past, using this pattern as a basis for predicting future stock movements. Based on the findings from the previous studies a hypothesis is proposed as follows;

Hypothesis 2: Representativeness Bias has a significant influence on Investment decision-making

Overconfidence and investment decision-making: Overconfidence bias is assumed to play a significant role in investment decision-making, as investors usually overevaluate their market forecast and ignore the risks (Kahneman & Tversky, 1973; Gervais & Odean, 2001). Investors who are driven by overconfidence bias often override models and data because they perceive themselves as better educated and skilled (Kartini & Nahda, 2021). Ultimately this bias could lead to negligence of potential risks and would end up with losses rather than gains. Frensidy (2016) described that an individual's tendency to become overconfident may be caused by two aspects; firstly, most people would like to have a positive self-assessment and secondly, with a psychological perspective people are having by a desire to take control over situations driven by a belief in their ability to do so. Moreover, it was identified four financial implications arise due to the overconfidence bias; 1. Investors may make incorrect financial decisions on buying and selling securities while failing to understand their lack of expertise in informational and analytical advantage, 2. Investors may trade more frequently and end up incurring more transaction costs, 3. Overconfident investors will set too narrow prediction intervals and 4. overconfident investors are more likely to experience unexpected outcomes (Frensidy, 2016). Although numerous studies have examined the impact of overconfidence bias on investment decisions, in the context of SL characterized by relatively low financial literacy the influence of overconfidence on excessive trading and mispricing has not been sufficiently explored.

Hypothesis 3: Overconfidence Bias has a significant influence on Investment decision-making

Regret Aversion and Investment Decision-making: Regret aversion is a bias, in which an investor feels bad about choosing the incorrect stock to invest in when the alternative stock generates a higher

return. Investors who suffer from regret aversion bias tend to refrain from taking action out of a concern of making poor choices. Instead of selling shares that are dropping and selling shares that are rising, investors avoid regret. When they sell the rising equities early and retain the declining ones for a longer amount of time, their regret grows (Lehenkari & Perttunen, 2004; Fogel & Berry, 2006). According to Bailey and Kinerson (2005), regret aversion can be further categorized into two aspects; experienced regret and anticipated regret. Experienced regret means the actual discomfort witnessed by the investor after realizing that the decision has led to a negative outcome whereas anticipated regret indicates the emotional distress or the discomfort that is expected to be felt in the future by an individual if their decisions turn out poorly. Limited studies have attempted in the SL context to discover the impact of regret aversion towards investor decisions hence the study pertains to test the below hypothesis;

Hypothesis 4: Regret Aversion Bias has a significant influence on Investment decision-making

Loss Aversion and investment decision-making: The loss aversion bias plays a crucial role in grasping investment decisions as investors are excessively prone to losses in comparison to equivalent gains and make irrational decisions due to this misconception (Tversky and Kahneman, 1991; Barberis and Thaler, 2003). The concept of loss aversion has been derived from prospect theory, suggesting that investors are not risk averse by loss averse (Kartini & Nahda, 2021). According to Thaler and Johnson (1990) the degree of loss aversion basically depends on past results witnessed by the decision maker. For instance, if an investor has experienced gains from the previous trades he/she will be less averse to loss, but if it was a loss investors become strongly averse to loss.

Hypothesis 5: Loss Aversion Bias has a significant influence on Investment decision-making;

3. Methodology

A positivist research philosophy will be used to assess the influence of behavioural biases on individual investment decision-making in Sri Lanka. It is in close conformity to natural scientists' position, where what is observable will yield data that is objective and can be generalised (Saunders & Lewis, 2019). The deductive research approach will be used in the study; the purpose will be to test the concrete theories of behavioural finance, such as overconfidence, herding, and loss aversion, and to how far it can show their impact on investment behaviours. This will be supported by some literature, which has analyzed and empirically proven the behavioural biases affecting market volatility and decision-making (Kumar & Goyal, 2015; Badola et al., 2023).

The mono method is used with a quantitative research choice, which uses numerical data in the collection of behavioural biases' effects according to (Bogner et al., 2009) collect numerical quantity.

The primary tool of data collection is structured questionnaires, which may follow the tradition of previous research strategies in behavioural finance (Saunders & Lewis, 2019). The study will gather quantifiable and numerical information from a large number of investors to assess how they behave regarding their investment decisions. Quantitative methods have been effectively used to analyze the cognitive bias effects on an investor's behaviour in previous studies (Bhatia et al., 2020; Bloomfield et al., 2000).

At the same time, the dynamic time horizon exists, being used in a cross-sectional design, which means analyzing many investors in a snapshot position to scrutinize their behaviours relating to behavioural biases. This has been agreed upon in studies conducted in the past (Barberis & Thaler, 2003; Shefrin & Statman, 1985) to understand how psychological biases manipulate investment decisions within certain market conditions.

The use of a survey design enables the methods of collecting responses to reach individual investors in the Colombo Stock Market. These methods will be comparatively studied in relation to the extent and effects of behavioural biases such as overconfidence, herding, and regret aversion towards investor behaviour, providing insights into how these biases manifest themselves in normal investment practices.

3.1. Conceptual Framework and Operationalization
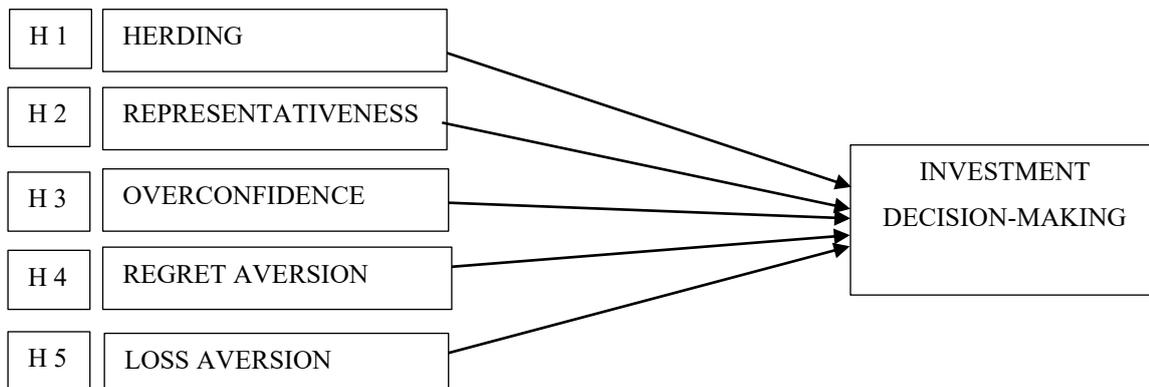
Figure 1: Conceptual Framework

The study pertains to examining the impact of herding, representativeness, overconfidence, regret aversion and loss aversion on investor decisions in the Sri Lankan stock market.

Table 1: Operationalization

Variable	Indicators	Measurement	Reference
Herding	*investment choices are affected by the choices of choosing stocks of other investors*	Five-point Likert Scale	Tan et al., 2008
	investment choices are affected by the choices of the stock volume of other investors		
	investment decisions are affected by the decisions of buying and selling stocks of other investors		
	I generally respond fast to the fluctuations of other investors; choices and track their responses to the stock market		
Representativeness	*I prefer to invest in only in familiar stocks*	Five-point Likert Scale	Jain et al., 2021
	Even if my best researched stock does not perform according to my expectation, still I hold to the same.		
	I use trend analysis to make investment decisions		
	If other stocks of a company are performing well and the same company offers new shares, I will buy the same		
	I buy "hot" stocks and avoid stocks that have performed poorly in the recent past.		
Overconfidence	*I sense more assurance in my own investment views over others*	Five-point Likert Scale	Ngoc, 2014

	I don't look up to others in case of making investment decisions		
	I am certain of my expertise and experience in outpacing the stock market		
	I am successful in an environment where others fail		
Regret Aversion	*I sell shares that have increased in value faster*	Five-point Likert Scale	Jain et al., 2021
	I avoid selling shares that have decreased in value		
	I feel more sorrow about holding losing stocks too long than about selling winning stocks to soon		
Loss Aversion	*A large loss in my investment is more important to me than missing a substantial gain*	Five-point Likert Scale	Chun & Ming, 2009
	A large price drops in my invested stocks make me nervous		
	I will not sell shares that have observed a decline in value whereas sell shares that have a rise in value		
	I will avoid increasing my investment when the market performs poorly		
Investment decision-making	*When making investments, I rely upon my instincts*	Five-point Likert Scale	M. A. Ahmad & Wu, 2022
	I generally make investments that feel right for me		
	When I make investment, I tend to rely on my intuition		

When making an investment I trust my inner feelings and reactions

When making an investment, it is more important for me to feel the investment is right than have a rational reason for it

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The study focuses on individual investors in the Colombo Stock Exchange in Sri Lanka, employing a structured questionnaire for primary data collection. The sample size, obtained from the Morgan Table, is 384, with convenience and snowball sampling techniques used. To minimize bias in the convenience and snowball sampling methods used in this study, several techniques were implemented during the data collection. Efforts were taken to diversify the sample pool by targeting participants from varied demographic backgrounds, including differences in age, gender, education, occupation, and geographic location. Survey distribution was conducted through multiple channels, such as social media, professional networks, and via email, to ensure a broad reach and reduce reliance on any single source.

The questionnaire was adapted from established scales in the literature to measure behavioural biases and investment decisions. The questionnaire items were taken directly from established scales in the literature and applied to the Sri Lankan context without altering their original content, ensuring that the source instruments' validity was maintained while being relevant to local investors. A pilot test with 50 participants was conducted to verify the reliability and validity of the questionnaire, with Cronbach's Alpha and KMO values exceeding 0.7 for all variables, providing confidence in the internal consistency and construct validity of the measurement tools.

Multiple linear regression analysis has been used as the main statistical tool to test the impact of each behavioural bias (overconfidence, representativeness, regret aversion, loss aversion, and herding) towards investment decision-making. Each hypothesis was developed to test the individual impact which these biases may have on investor behaviour, with investment decision-making serving as the dependent variable and the behavioural biases as independent variables. The regression model allowed for the identification of strength and direction, therefore giving a quantitative view on how these biases impact decision-making. This method was chosen due to its effectiveness in testing relationships and assessing the predictive power of independent variables.

All participants will be informed about the purpose of the study, and their responses will be kept confidential and used solely for research purposes, ensuring that ethical standards are maintained throughout the research process.

4. Analysis

This chapter depicts the analysis of the data collection across different sections: descriptive statistics, reliability, validity, statistical analysis including correlations and regression followed by assumptions of regression to test the hypothesis and ensure internal consistency and demographic analysis.

The descriptive statistics of the demographic variable can be carried out by analysing and reporting the frequency of gender, age, education level of the respondent, and monthly income. In this research, the frequencies and percentages of the demographic attributes of the respondents were determined with a view of presenting an analytically clear profile of the respondents. Hence, through this analysis of these statistics, the study seeks to provide a demographic profile of the sample.

Table 2: Descriptive Statistics of the Demographic Factors

Demographic Factor	Majority	Minority
Gender	Male - 51.4%	Female - 48.60%
Age	26-35 Years - 34.36%	50 Years above - 10.61%
Educational Level	Bachelor's Degree - 41.34%	Doctorate - 1.96%
Occupation	Private Limited Company employees - 37.71%	Students - 8.10%
Experience in the stock market	1-3 Years – 36.31%	over 10 years - 10.61%

This section analyzes descriptive statistics, focusing on central tendency (mean, mode, median) and dispersion (variance, standard deviation) of variables. It emphasizes the importance of these measures in summarizing data, as noted by (Sekaran & Bougie, 2016), particularly for both independent and dependent variables.

Table 3: Descriptive Statistics of the Variables of the Research

Variable	Mean	SD	Satisfaction Level
Herding (H)	4.1355	0.633	Agree
Representativeness (R)	4.256	0.828	Agree
Overconfidence (O)	4.1375	0.094	Agree
Regret Aversion (RA)	4.617	0.653	Agree
Loss Aversion (LA)	4.3715	0.826	Agree
Investment Decision-Making (IDM)	4.4532	0.797	Agree

Source: Data Survey 2024

Table 4: Skewness & Kurtosis

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
H_Mean	358	-1.033	0.129	1.069	0.257
R_Mean	358	-1.129	0.129	1.976	0.257
O_Mean	358	-1.309	0.129	2.66	0.257
RA_Mean	358	-1.491	0.129	3.055	0.257
LA_Mean	358	-1.526	0.129	3.3	0.257
IDM_Mean	358	-1.312	0.129	2.756	0.257
Valid N (listwise)	358				

Source: Data Survey 2024

According to Table 4, skewness and kurtosis are analyzed since the values of the skewness are less than -1 this distribution is left-skewed. Also, values for the kurtosis are greater than 1 therefore it depicts that the distribution is **leptokurtic.**

1: **Leptokurtic: A skewness of less than -1 signifies high left-skewness and a kurtosis of more than 1 indicates a greater peak and extreme values at the tails than a normal distribution (greater peak, heavier tails than a normal distribution).*

4.1. Reliability Testing

Table 5 : Reliability

Variable	Cronbach's Alpha	Number of Items
Herding (H)	0.974	4
Representativeness (R)	0.909	5
Overconfidence (O)	0.85	4
Regret Aversion (RA)	0.788	3
Loss Aversion (LA)	0.721	4
Investment Decision-Making (IDM)	0.921	5

Source: Data Survey 2024

The Cronbach's Alpha values for the independent variables (herding bias, representativeness, overconfidence, regret aversion, and loss aversion) and the dependent variable (investment decision-making) exceed 0.7, indicating strong internal consistency and reliability. The dependent variable, investment decision-making has an alpha value of 0.921. All Cronbach's alpha values are above 0.7, which points to a strong internal consistency among the indicators. This confirms their reliability.

4.2. Validity Testing

Table 6: Factor Analysis

Construct	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Sig. Value
Herding (H)	0.759	0.000
Representativeness (R)	0.890	0.000
Overconfidence (O)	0.818	0.000
Regret Aversion (RA)	0.687	0.000
Loss Aversion (LA)	0.731	0.000
Investment Decision-Making (IDM)	0.883	0.000

Source: Data Survey 2024

Test results from the KMO indicate that representativeness (0.890), overconfidence (0.818), and investment decision-making (0.883) present quite strong correlations. On the other hand herding (0.759) and regret aversion (0.687) are on the average and mediocre levels respectively. All the coefficients are statistically significant with $p<0.05$.

4.3. Assumptions of Regression

4.3.1. Linearity

Table 7: Linearity

IDM Mean	H Mean	R Mean	O Mean	RA Mean	LA Mean
Linearity - F	607.74	673.72	400.068	421.234	439.103
Deviation from linearity - F	3.420	3.237	2.591	3.785	3.044
Sig.	0.000	0.000	0.000	0.000	0.000

Source: Data Survey 2024

The ANOVA table shows a significant linear relationship between Herding and Investment Decision-Making (F = 607.740, p < .001), with minor nonlinear effects (F = 3.420, p < .001). Also, data depicts a strong linear relationship between Representativeness and Investment Decision-Making (F = 673.720, p < .001), with minor nonlinear effects (F = 3.237, p < .001). There is a significant linear relationship between Overconfidence and Investment Decision-Making (F = 400.068, p < .001), with minor nonlinear effects (F = 2.591, p < .001). Regret Aversion and Investment Decision-Making has a significant linear relationship (F = 421.234, p < .001), with minor nonlinear effects (F = 3.785, p < .001). Table reveals a significant linear relationship between Loss Aversion and Investment Decision-Making (F = 439.103, p < .001), with minor nonlinear effects (F = 3.044, p < .001).

4.3.2. Multicollinearity

Table 8: Multicollinearity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.227	0.119		-1.911	0.057		
	H_Mean	0.249	0.03	0.276	8.222	0	0.426	2.347
	R_Mean	0.286	0.032	0.296	8.95	0	0.44	2.275
	O_Mean	0.16	0.028	0.18	5.738	0	0.49	2.043
	RA_Mean	0.208	0.033	0.202	6.345	0	0.476	2.103
	LA_Mean	0.157	0.035	0.151	4.507	0	0.429	2.333

a. Dependent Variable: IDM_Mean

Source: Data Survey 2024

The coefficients table assesses the relationship between independent variables and the dependent variable, while also checking for multicollinearity. All predictors significantly influence Investment Decision-Making ($p < .001$). The tolerance values (ranging from 0.426 to 0.490) are above 0.1, and the VIF values (ranging from 2.043 to 2.347) are below 10, indicating no severe multicollinearity among the variables. These results confirm that the model is reliable and stable.

4.3.3. Homoscedasticity
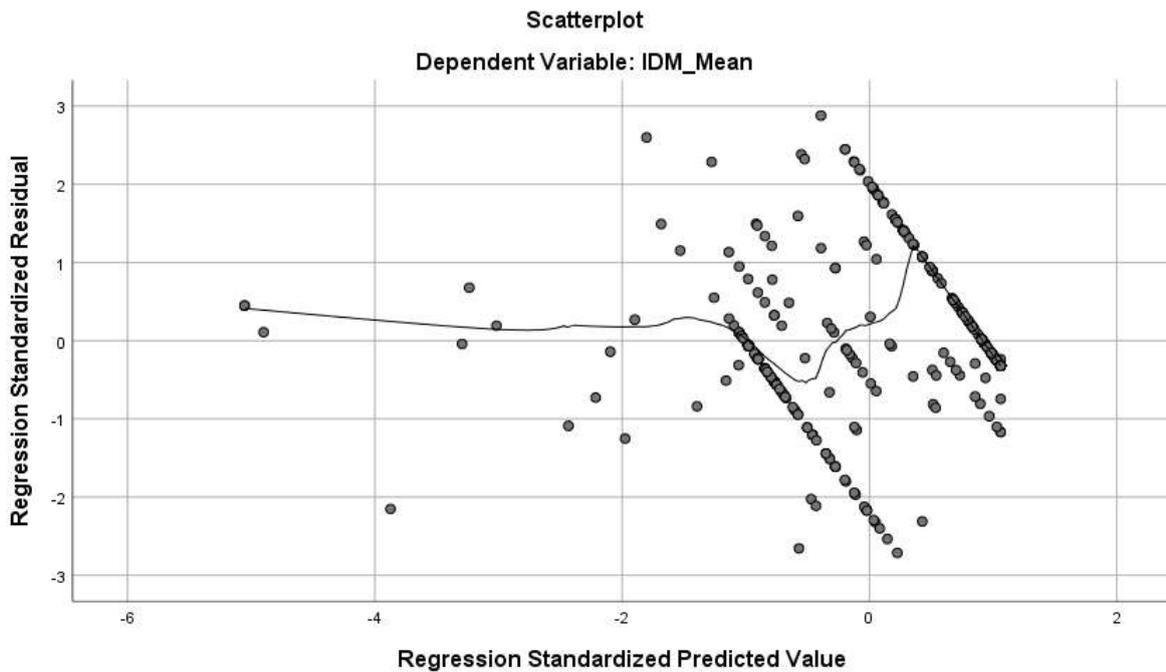
Figure 2: Homoscedasticity

The scatterplot assesses the homoscedasticity assumption by plotting standardized residuals against predicted values for Investment Decision-Making. The slight funnel shape indicates mild heteroscedasticity, as variability increases at certain predicted value ranges. Based on this visual evidence, the homoscedasticity assumption appears to be violated. As a decision, the assumption of homoscedasticity is rejected.

4.3.4. Normality

Table 9: Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
IDM_Mean	0.278	358	0	0.751	358	0
H_Mean	0.243	358	0	0.772	358	0
R_Mean	0.25	358	0	0.784	358	0
O_Mean	0.167	358	0	0.825	358	0
RA_Mean	0.29	358	0	0.751	358	0
LA_Mean	0.21	358	0	0.802	358	0

a. Lilliefors Significance Correction

Source: Data Survey 2024

The Tests of Normality assess whether the variables follow a normal distribution using the Kolmogorov-Smirnov and Shapiro-Wilk tests. For all variables Investment Decision-Making (KS = 0.278, SW = 0.751), Herding (KS = 0.243, SW = 0.772), Representativeness (KS = 0.250, SW = 0.784), Overconfidence (KS = 0.167, SW = 0.825), Regret Aversion (KS = 0.290, SW = 0.751), and Loss Aversion (KS = 0.210, SW = 0.802) both tests yield significant results ($p < .001$), indicating deviations from normality. However, in larger samples (N= 358), the impact of non-normality is often mitigated due to the robustness of statistical methods. In order to mitigate the issue, the Central Limit Theorem ensures that the sampling distribution of the mean approximates normality, minimizing the impact of non-normality (Field, 2017). To further mitigate its effects, bootstrapping techniques were applied to estimate robust confidence intervals and standard errors, as recommended by (Hayes and Cai, 2007). Additionally, visual assessments (e.g., Q-Q plots) were conducted to confirm the distributions, and transformations were applied where necessary to address extreme skewness. Robust standard errors were also used to ensure reliable regression estimates.

4.3.5.Autocorrelation

Table 10: Autocorrelation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.912a	0.831	0.829	0.23629	1.207

a. Predictors: (Constant), LA_Mean, O_Mean, RA_Mean, R_Mean, H_Mean

b. Dependent Variable: IDM_Mean

Source: Data Survey 2024

The Model Summary assesses autocorrelation in the regression model, indicated by the Durbin-Watson statistics. A value of 1.207 suggests the presence of some positive autocorrelation, as ideal values range between 1.5 and 2.5 for no autocorrelation. The model shows a strong overall fit, with an R-value of 0.912, indicating a high correlation between predictors (Herding, Representativeness, Overconfidence, Regret Aversion, Loss Aversion) and the dependent variable (Investment Decision-Making). The R Square value of 0.831 means that 83.1% of the variability in Investment Decision-Making is explained by the model, with a low standard error of 0.23629, supporting the model's predictive accuracy.

4.3.6. Regression Analysis

The coefficient obtained In this analysis enables determination of how efficient every independent variable in explaining the dependent variable. Regression coefficients can be expressed in a mathematical equation:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$$

Based on the Behavioural Finance Theory and using multiple regression analysis, the five variables: herding bias, representativeness, overconfidence, regret aversion, and loss aversion were able to explain 83% fluctuations in making investment decisions as shown by the adjusted R-squared of value of 0.829. R^2 should also be more than 0.5 as seen above R^2 is at a satisfactory level, hence meeting the standard requirements can be concluded as the model is fitted.

Table 11: Regression Coefficients

Variables	Unstandardized Coefficients		Sig.
	B	Std. Error	
Constant	-0.227	0.119	
Herding (H)	0.249	0.200	0.000
Representativeness (R)	0.286	0.032	0.000
Overconfidence (O)	0.160	0.028	0.000
Regret Aversion (RA)	0.208	0.033	0.000
Loss Aversion (LA)	0.157	0.035	0.000

Source: Data Survey 2024

The model can be derived through this equation

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

$$Y = -0.227 + 0.249H + 0.286R + 0.160O + 0.208RA + 0.157LA$$

The beta values demonstrate the influence of each independent variable on investment decision-making, with the highest beta value being that of representative bias which is 0.286. All significance values are less than 0.05, so it can be concluded that each variable is statistically significant in investment decision-making.

4.3.7. Hypothesis Testing

Table 12: Hypothesis

Hypothesis	Beta Value	Sig Value	Significant or Not Significant
H1: Herding bias has a significant influence on investment decision-making (H)	0.249	0.000	Significant
H2: Representativeness bias has a significant influence on investment decision-making (R)	0.286	0.000	Significant

H3: Overconfidence bias has a significant influence on investment decision-making (O)	0.160	0.000	Significant
H4: Regret Aversion bias has a significant influence on investment decision-making (RA)	0.208	0.000	Significant
H5: Loss Aversion bias has a significant influence on investment decision-making (LA)	0.157	0.000	Significant

Source: Data Survey 2024

According to the analysis carried out it was discovered that herding has a significant positive influence which is based on significant value (Beta value = 0.249, sig value = 0.000). Therefore it can be accepted on a solid basis. These current studies are aligned with the findings of (Hirshleifer & Teoh, 2003) noted in their review, that this behavioural component of herding can cause notable variation in asset valuations beyond the bounds of what should be possible during market chaos.

According to the analysis carried out it was discovered that representativeness has a significant positive influence which is based on significant value (Beta value = 0.286, sig value = 0.000). Therefore, it can be accepted on a solid basis. (He & Li, 2015) explore in the article how representativeness bias can impact investment decisions. They also underline the fact that investors often base their predictions on past performance and visible patterns which may very likely cause them to be overconfident in their judgments.

According to the analysis carried out it was discovered that overconfidence has a significant positive influence which is based on significant value (Beta value = 0.160, sig value = 0.000). Therefore, it can be accepted on a solid basis. (Biais et al., 2005) Investigate the link between judgmental arrogance, self-monitoring and trading results. According to what was discovered overconfident traders believe they know more and are more skilled than they are, which causes them to make poor trades.

The analysis reveals regret aversion significantly influences decision-making (Beta = 0.208, p = 0.000). (Loomes and Sugden, 1982) introduced regret theory as an alternative to expected utility theory, highlighting how regret affects decisions. People often make irrational choices to avoid regret, emphasizing the emotional impacts on rational decision-making under uncertainty.

The analysis shows loss aversion significantly influences decision-making (Beta = 0.157, p = 0.000). (Kahneman and Tversky, 1979), in Prospect Theory, highlights loss aversion as a key concept, where individuals feel losses twice as intensely as gains. This asymmetry drives risk aversion with gains and

risk-seeking behaviour with losses, influencing investment decisions. Scholars agree on its role in shaping behaviour under risk, emphasizing its impact on decision-making frameworks.

5. Discussion

This study explores the behavioural biases that impact investment decision-making amongst individual investors in the Colombo Stock Exchange, in order to address the low participation rate despite high literacy levels in Sri Lanka. The study identifies some of the key gaps in the literature on the behavioural factors influencing investment decisions in such a context.

First, it confirms the influence of herding behaviour on the trading decision and the volume preference of the stock by others indeed is one of the factors affecting such a decision. The significant impact of herding behaviour on trading decisions aligns with (Bikhchandani et al. , 1992) and (Spyrou, 2013), who identify herding as a common bias in financial markets. Recent studies in emerging markets also show herding persists even when investors have access to more market information (Cheng et al., 2021; Nguyen & Le, 2022), although some evidence suggests higher literacy may reduce herding, which contrasts with our findings. The second objective ascertains representativeness bias. A trend analysis highly influencing the decision-making aspect of the potential investors finds an apparent reflection. Similarly, representativeness bias influencing decision-making is supported by (Kahneman and Tversky, 1974) and (Barberis et al., 1998). Recent research indicates that representativeness continues to influence investors in emerging markets (Chen et al., 2020), although exposure to diverse information sources may mitigate this effect (Lim & Ho, 2021). The third objective covers overconfidence, finding that reliance on others' analysis is a causal determinant of individual investment decisions, which implies a general overconfidence bias among investors. Overconfidence bias, as seen in reliance on external analysis, is consistent with findings by (Odean,1998) and (Barber et al. 2001). Interestingly, even moderately experienced investors displayed overconfidence, suggesting that experience alone may not reduce this bias (Li et al., 2019). The fourth objective addresses regret aversion, in which a high susceptibility to selling to the operation of price changes is found since investors are deterred by the results of poor decisions. Regret aversion, where investors avoid acting due to fear of prior poor decisions, is explained by (Loomes et al., 1982) and (Zeelenberg et al., 2007). Recent studies also show regret aversion causes delayed selling or trend-following behaviour (Bhana et al., 2021), with our results indicating the effect is stronger in newer investors compared to experienced ones. Finally, the research discusses loss aversion and locates that loss aversion is indeed a very critical factor because people do not want to sell their losing stocks or increase investments when the market is performing badly. Loss aversion is well-documented in Prospect Theory (Kahneman & Tversky, 1979) and (Shefrin et al., 1985), highlighting its influence on holding and losing stocks during market downturns. This is consistent with recent findings in emerging markets where loss aversion strongly affects investor

behaviour during volatile periods (Wang et al., 2022). Overall, these findings allow deeper insight into the behavioural factors causing decision-making in investment in the stock market of Sri Lanka. The study both confirms and extends prior research while highlighting context-specific insights, such as persistent herding despite high literacy levels and stronger regret aversion among new investors, offering a novel contribution to the current literature on behavioural finance in emerging markets.

6. Conclusion

The current study examines how behavioural biases influence the investment decision-making of Sri Lankan individual investors, grounded in behavioural finance theory. By investigating biases such as herding, representativeness, overconfidence, regret aversion, and loss aversion, the research contributes to the understanding of retail investor behaviour in the Colombo Stock Market, enhancing the body of knowledge within behavioural finance.

The study lays a foundation for future research focusing on specific behavioural characteristics that drive investment decisions, particularly examining how biases affect market mechanisms under various conditions.

Practically, the findings can inform tailored investor education programs aimed at helping individual investors better manage biases and make informed decisions. Financial institutions can utilize this knowledge to create customized services and advertising strategies addressing behaviours like loss aversion and overtrading, leading to improved client satisfaction and investment outcomes.

Investment managers can also apply insights from herding behaviour to enhance decision-making strategies, while educational initiatives in financial literacy can prepare future investors. Collaborations between regulatory agencies and educational institutions can promote financial management courses in schools and universities, nurturing a culture of financial literacy. Community outreach programs can further improve access to financial education, fostering a more informed and financially responsible society.

6.1. Limitations & Recommendations for Future Research

The current study investigates cross-sectional data that can be changed with the market conditions therefore in the future behavioural biases can be examined in different market conditions. The sample size and diversity of participants may limit the study's ability to capture the full range of behaviours exhibited by all individual investors in Sri Lanka. A smaller or less diverse sample could restrict the generalizability of the findings to the broader population. Adding to that diversifying the sample would

provide more generalizable data. Since the focus on Specific Behavioural Biases in this research brings to light some of these behavioural biases, does not take into account other key factors which could affect the investment decision, like the state of the individual's income, demographic factors, economic indicators or the individual investor's experience. This may cause the analysis to lack comprehensiveness. Moreover, using a mediator or a moderator since Sri Lankans according to the census and statistics department have a better level of financial literacy that can be applied it how it would influence investment decision-making.

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Appendix

FIGURES & TABLES

Descriptive Statistics

	Mean	Std. Deviation	N
IDM_Mean	4.5241	.57079	358
H_Mean	4.4384	.63189	358
R_Mean	4.4726	.59090	358
O_Mean	4.3778	.63917	358
RA_Mean	4.5744	.55300	358
LA_Mean	4.5363	.54819	358

Correlations

		H_Mean	R_Mean	O_Mean	RA_Mean	LA_Mean	IDM_Mean
H_Mean	Pearson Correlation	1	.626**	.678**	.522**	.593**	.778**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	358	358	358	358	358	358
R_Mean	Pearson Correlation	.626**	1	.594**	.610**	.636**	.794**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	358	358	358	358	358	358

O_Mean	Pearson Correlation	.678**	.594**	1	.476**	.481**	.711**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	358	358	358	358	358	358
RA_Mean	Pearson Correlation	.522**	.610**	.476**	1	.682**	.714**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	358	358	358	358	358	358
LA_Mean	Pearson Correlation	.593**	.636**	.481**	.682**	1	.727**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	358	358	358	358	358	358
IDM_Mean	Pearson Correlation	.778**	.794**	.711**	.714**	.727**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	358	358	358	358	358	358

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

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.912a	.831	.829	.23634	.831	346.061	5	352	.000

a. Predictors: (Constant), LA_Mean, O_Mean, RA_Mean, R_Mean, H_Mean

ANOVAª

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	96.651	5	19.330	346.061	.000[b]
	Residual	19.662	352	.056		
	Total	116.313	357			

a. Dependent Variable: IDM_Mean

b. Predictors: (Constant), LA_Mean, O_Mean, RA_Mean, R_Mean, H_Mean

Coefficientsª

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-.227	.119		-1.911	.057	-.460	.007
	H_Mean	.249	.030	.276	8.223	.000	.190	.309
	R_Mean	.286	.032	.296	8.952	.000	.223	.349
	O_Mean	.160	.028	.180	5.738	.000	.105	.216
	RA_Mean	.208	.033	.201	6.332	.000	.143	.272
	LA_Mean	.157	.035	.151	4.514	.000	.089	.226

a. Dependent Variable: IDM_Mean

An Exploratory Factor Analysis of Vulnerability and Protective Factors Influencing University Students' Unethical Intention to Use AI Tools

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Abstract

The rapid integration of AI tools in higher education presents both opportunities and challenges in the contemporary education setting, mainly regarding students' ethical and responsible use. This study aims to explore the underlying factors that influence students' unethical intention to use AI tools through a Vulnerability–Protection framework, which considers factors that lead to unethical usage (vulnerability) and factors that prevent unethical usage (protection). Data were collected from 522 undergraduate and postgraduate students across eight universities, comprising four public and four private institutions, in the Colombo District, Sri Lanka. Exploratory Factor Analysis (EFA) was conducted to identify primary dimensions, and reliability analysis was used to assess internal consistency. Results discovered a seven-factor structure, including four vulnerability factors: perceived ease of use/usefulness, institutional pressure, peer influence, and task pressure, and two protective factors: AI literacy and ethical awareness. Perceived usefulness and ease of use were identified as the strongest drivers of AI adoption, while protective factors provided a barrier for unethical usage. The findings highlight a relationship between different cognitive, social, and ethical factors of AI use, highlighting the importance of improving AI literacy, ethical awareness, and supportive institutional practices. These insights offer practical guidance for universities to promote responsible and knowledgeable AI adoption while mitigating risks related to academic integrity.

Keywords*: AI usage, Behavioral Intention, Exploratory Factor Analysis, Higher Education, Vulnerability–Protection Framework*

1. Introduction

Artificial intelligence (AI) technologies are driving massive transformations across global education systems because it is quickly spreading to every aspect of education (Bouteraa et al., 2024). Teaching, learning, and assessment practices, especially in higher education, are changing with AI (Rodway & Schepman, 2023). From automated feedback tools to generative language models, AI now plays a significant role in how students access information, complete academic tasks, and navigate complex learning environments (Ali et al., 2024). As in many developing countries, in Sri Lanka, the use of AI in universities has accelerated as digitalization and technology have become increasingly integrated into the education sector. While AI offers clear benefits, including improved efficiency, enhanced learning support, and greater accessibility, it also raises growing concerns about academic integrity, ethical use, and students' readiness to use such tools responsibly (Wang et al., 2025).

A core challenge is that the way students approach AI is changing significantly (Vieriu & Petrea, 2025). Some use AI critically and ethically, guided by skills such as AI literacy and an understanding of responsible use. However, the majority may use AI impulsively, opportunistically, or when under time pressure and peer pressure (Abbas et al., 2024; Baek et al., 2024). These patterns suggest that some factors are available that could unintentionally push students into uncritical or ethically questionable use of AI (Acosta-Enriquez et al., 2025; Theoharakis et al., 2025). On the other hand, some research provide evidences there are some other factors that encourage students to use AI more responsibly (Wang et al., 2025).

Although previous research has examined individual predictors of technology use, particularly through established models such as the Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh & Davis, 2000) and the Theory of Planned Behavior (TPB) (Ajzen, 1991), there is limited understanding of how multiple factors interact simultaneously to influence students' behavioral intentions to use AI in both vulnerable and protective ways. Furthermore, many existing models assume well-defined theoretical structures, but empirical evidence is insufficient to confidently specify such relationships, especially in emerging contexts such as Sri Lanka (Weerasinghe & Abeysinghe, 2024). This gap highlights the need for a more exploratory approach that practically explains how different factors from different theoretical models naturally cluster into meaningful factors that explain student intention

To address this gap, the present study introduces a new exploratory conceptual direction, called the vulnerability and protective approach to behavioral intention of using AI tools. Rather than examining pre-specified theoretical constructs, this study examines how the influencing factors of AI usage can be reorganized into developing vulnerable and protective dimensions. Furthermore, how these dimensions influence behavioral intentions to use AI. Therefore, this study aims,

(1) To identify the underlying factors that constitute vulnerability to unethical usage among university students in Sri Lanka.

(2) To identify the underlying factors that constitute the protection of preventing unethical usage among students in Sri Lanka?

The study uses exploratory factor analysis (EFA) to originate factor structures for vulnerability and protection using pre-identified items from different theories and frameworks, such as perceived usefulness (PU), perceived ease of use (PEOU), social influence (SI), institutional pressure (IP), AI literacy (AIL), and ethical awareness (EA).

This exploratory approach seeks to identify the underlying factor structure of vulnerability-related items (PU, PEOU, SI, IP) (Acosta-Enriquez et al., 2025; Alshammari & Al-Mamary, 2025; Theoharakis et al., 2025) and protective-related items (AIL and EA) (Asagar, 2025; Wang et al., 2025) using EFA. Apart from that, the study will assess the reliability of the factors developed from EFA.

2. Literature Review

2.1. AI Usage in Higher Education

AI is no longer something distant or futuristic in university settings; students are using AI right now in their learning environments, supporting tasks ranging from writing assistance to data analysis, translation, tutoring, and information retrieval (Wang et al., 2025; Yan et al., 2024). Especially with tools like ChatGPT and other generative AI tools. This deep accessibility of generative AI tools has reshaped the way students approach coursework, complete assignments, make decisions, and even prepare for exams (Kim et al., 2022; Vieriu & Petrea, 2025). While AI is more helpful in academic tasks, it also produces considerable ethical and integrity issues in academia. Students tend to misuse AI for their brains, letting it do the coursework as it sees fit, rather than thinking for themselves. This may create serious ethical problems like unauthentic works, plagiarism issues, dependency on AI tools, cognitive offload, etc. (Cross et al., 2023; Karabacak et al., 2023; Nikolic et al., 2023). As a result, scholars have called for frameworks that not only promote the use of AI but also ensure responsible and ethical use in academic settings.

In developing countries like Sri Lanka, where digital literacy and institutional guidelines are still evolving, understanding students' behavioral intentions to use AI is especially important. Behavioral intention, generally conceptualized as the likelihood that an individual will engage in a given behavior, remains one of the strongest predictors of technology adoption. However, BI is not formed in isolation; it is shaped by psychological, contextual, and ethical influences that can increase the risk of uncritical use or reinforce protective behaviors (Elbaz, 2024; Muhammad Waqas et al., 2025). Therefore, this study explores these opposing effects through a lens of risk, safety, and security.

2.2. Vulnerability Factors in AI Usage

One of the strongest reasons students are attracted to AI is simply how useful they find it. In many educational contexts, students believe that generative AI is able to improve their performance, streamline difficult tasks, and save time (C. Wang et al., 2025). When something feels powerful and useful, it's easy to rely on it, even if it poses a risk. As with vulnerability factors, increasing the likelihood of uncritical, impulsive, or ethically risky AI use.

One of the most important factors that positively influences the intention to engage in unethical behavior is ease of use (Alshammari & Al-Mamary, 2025). Perceived ease of use is described as the extent to which individuals believe that using a technology will be effortless. If a tool feels intuitive and does not require much effort, students are more likely to adopt it. This "low-friction" approach can be a double-edged sword. On the one hand, that ease encourages adoption. On the other hand, it can reduce the amount of reflection or critical judgment a student applies when using the tool. Although initially a positive predictor in technology adoption models such as TAM, in the context of AI ethics, ease of use can inadvertently encourage shortcuts or overreliance (Wu et al., 2024).

Another factor that can influence the behavioral intention is the perceived usefulness of the AI tool. Perceived usefulness refers to the belief among students that AI tools will improve academic performance or efficiency (Alshammari & Al-Mamary, 2025). Although PU has traditionally been associated with high usage, its effects can also display a risk of over-reliance. When AI is readily available, students may grab it not just for meaningful tasks, but simply because it's there. Without careful reflection, this "grab whatever you can" mentality can lead to overreliance, especially under tight deadlines or heavy workloads. When students perceive AI as essential for completing assignments quickly or accurately, they may prioritize usefulness over critical evaluation, originality, or ethical considerations. Therefore, PU operates as a double-edged factor in AI-supported learning contexts (Li, 2023).

The TAM, developed by Davis (1989), has long been used to explain how individuals adopt new technologies. In TAM, perceived ease of use and perceived usefulness are key predictors that shape users' behavioral intention to adopt a system. PEOU reflects the degree to which a user believes that interacting with a technology will be easy, while PU indicates a belief that using the technology will improve performance or efficiency. Traditionally, TAM positions BI as a consequence of these perceptions, capturing an individual's ability to engage with technology (Li, 2023). In the context of AI tools in higher education, this construct is highly relevant. Students who perceive AI as useful and easy to implement are naturally more inclined to use it, without fully considering the potential ethical or academic implications. Therefore, in the present study, PEOU and PU are conceptualized as risk factors, conditions that may increase the likelihood that students will impulsively or opportunistically use AI, while BI serves as the dependent variable, reflecting students' intention to use AI. Using TAM

constructs in this way aligns with their theoretical role but reframes them in an exploratory context that accounts for both practical adoption and potential ethical risks, providing a solid foundation for examining behavioral intentions toward AI tools.

Another vulnerability factor identified in the literature is social influence (Korchak et al., 2025). Social influence refers to the pressure students feel to use AI tools from peers, instructors, or the academic culture. Since students are not operating within the vaccine, their peers, educators, and academic culture strongly shape their choices (Korchak et al., 2025; Uludağ et al., 2025). In many university environments, peer groups normalize the use of AI, often without clear guidance or limits. Students may adopt AI due to social comparison, fear of failure, or collective norms rather than informed judgment. This creates a risk for unregulated or opportunistic use, especially when formal policies on AI are unclear or inconsistent. Johnston et al. (2024) report that many students feel peer pressure to use generative AI. Some believe that there should be institutional policies about when it is appropriate to use AI, which highlights how much influence the academic community has over individual AI decisions.

Another important factor influencing students' use of AI tools is institutional pressure. Universities often impose tight deadlines, high expectations for assignment quality, and heavy course loads, which create an environment in which students are forced to work efficiently under time constraints (Salah et al., 2024). Such pressures can push students to turn to AI tools as a practical solution to manage competing demands, meet deadlines, and deal with multiple modules simultaneously. Studies on academic stress and technology use show that high workload and performance expectations increase students' reliance on digital tools, including AI, as a strategy (Misra & McKean, 2000; Zheng et al., 2023). In the context of AI use, IP can be seen as a risk factor, increasing the likelihood that students will use AI not only for support but also sometimes as a shortcut to meet institutional demands. By shaping the perceived need for AI, institutional structures indirectly influence behavioral intentions, highlighting the critical role of the academic environment in students' ethical and practical engagement with AI technologies (Singh et al., 2020).

Visually, these factors create an environment where students may use AI impulsively or opportunistically, increasing the risk of unethical practices or shortcuts in their academic pursuits. Identifying these triggers is essential to understanding not only the motivations behind AI use but also the situations in which safety factors are critical in guiding responsible behavior.

2.3. Protective Factors in AI Usage

Protective factors represent skills, behaviors, or attitudes that reduce the likelihood of risky AI use and strengthen responsible, informed, and ethical adoption. Based on the literature, AI literacy has been found as a strong protective factor. The concept of AI literacy has evolved as a bridge between students'

understanding of AI and their ability to use these technologies ethically in educational contexts. Research consistently shows that, unlike general literacy, AI literacy functions as more than technical knowledge and acts as a broader framework that shapes how students access, evaluate, and implement AI tools in their academic work (Casal-Otero et al., 2023).

AI literacy incorporates the knowledge, awareness, and competencies needed to understand how AI works, its limitations, potential biases, ethical risks, and appropriate applications (Casal-Otero et al., 2023; Ng et al., 2021). Students with higher AI literacy are better able to evaluate AI outputs critically, resist misinformation, and avoid misuse. AI literacy also includes understanding institutional guidelines, privacy concerns, data governance issues, and the importance of maintaining academic integrity when using AI-generated content. Thus, AI literacy acts as a major protective barrier against irresponsible usage. The literature presents a variety of approaches designed to conceptualize AI literacy, but most frameworks share common core elements. Previous research established that AI literacy encompasses technical, evaluative, and ethical knowledge related to AI systems (Al-Zahrani, 2024; Ng et al., 2021). This broad definition recognizes that responsible AI use requires understanding not only how AI works but also its limitations, potential biases, and ethical implications.

The reviewed literature reveals both mergers and deviations in approaches to AI literacy. While the majority of research agrees on the importance of integrating technical knowledge with ethical understanding, there are some differences in how these components should be planned, taught, and evaluated (Bhullar et al., 2024; Bouteraa et al., 2024). Some approaches emphasize broad frameworks that integrate all aspects of AI literacy, while others focus on specific skill areas or educational contexts. Therefore, it can be identified a significant gap between measuring AI literacy and assessing ethical behavior. While many studies have developed sophisticated approaches to measuring AI literacy, few have examined whether higher AI literacy leads to more ethical AI use (Carolus et al., 2023). This represents a critical area for future research, particularly emphasizing AI literacy as a protective factor in ethical behavioral intention to use AI tools.

Ethical Awareness (EA) represents a critical dimension of protective factors, reflecting students' ability to recognize, evaluate, and respond to moral and ethical considerations associated with AI use (Asagar, 2025). Unlike AI literacy, which primarily equips students with knowledge and skills to navigate technology effectively, ethical awareness emphasizes the values, judgments, and ethical reasoning that guide students' decisions. It includes sensitivity to issues such as fairness, transparency, accountability, academic integrity, and the broader societal consequences of AI use.

Students with high ethical awareness are more likely to question whether their use of AI aligns with moral principles and institutional expectations (Migdadi et al., 2024). For example, they consider the implications of submitting AI-generated content as their own work, the potential biases embedded in AI outputs, and how reliance on AI may affect their learning or the academic experience of others. This

reflective approach encourages deliberate decision-making rather than impulsive or convenience-driven usage.

Even when students face strong vulnerability factors such as tight deadlines, social pressure, or the perceived usefulness of AI, the presence of ethical awareness can guide them to act responsibly. It encourages them to critically evaluate situations, balance efficiency with integrity, and choose actions that uphold academic standards (Shrestha, 2025).

Moreover, ethical awareness is closely linked to the development of professional and personal responsibility. In higher education, students are preparing for careers where AI is increasingly integrated into professional practice. Cultivating ethical awareness ensures that students not only use AI responsibly in their academic work but also develop habits and moral frameworks that can transfer to professional contexts, where decisions may have broader societal consequences (Shrestha, 2025).

Ethical awareness is not distinctive; it can be fostered through structured educational interventions, reflective practice, case studies, and institutional guidance. When combined with AI literacy, it forms a comprehensive protective system: literacy provides the tools and knowledge for competent AI use, while ethical awareness provides the moral compass that guides how those tools are applied. Together, they empower students to engage with AI in ways that maximize benefits, minimize risks, and uphold the values of honesty, fairness, and responsibility (C. Wang et al., 2025).

Importantly, ethical awareness functions as a complementary protective factor that strengthens the impact of AI literacy (Alnsour et al., 2025). Ethical awareness reflects students' sensitivity to ethical issues surrounding AI, including fairness, transparency, accountability, and the moral implications of using AI-generated content. While AI literacy equips students with the knowledge needed to navigate AI tools effectively, ethical awareness provides the moral compass that guides the application of that knowledge toward responsible choices (Chan, 2023a; H. Wang et al., 2024). Students who possess strong ethical awareness are more likely to consider the consequences of their AI use on themselves, their peers, and the integrity of the academic environment (Shrestha, 2025).

Together, AI literacy and ethical awareness form a powerful protective barrier against irresponsible AI usage. AIL provides the analytical and procedural competencies, while EA ensures those competencies translate into ethical decisions. This dual combination helps students navigate AI tools confidently, mitigate risks, and engage with AI in ways that support learning, creativity, and integrity rather than undermine them.

2.4. Vulnerability-Protective Perspective

Examining vulnerability and protective factors side by side provides a nuanced lens for understanding students' engagement with AI. Rather than categorizing students simplistically as either "AI adopters"

or "cheaters," this perspective acknowledges that their behavior is shaped by both real opportunities and tangible risks. Vulnerability factors explain why students may be drawn toward AI tools: these technologies are perceived as useful, easy to use, socially encouraged, and readily available. Protective factors, on the other hand, reveal how students can regulate or restrain their use, guided by skills, critical reflection, and ethical awareness. Together, these dimensions illuminate the interplay between motivation and restraint, highlighting the conditions under which students may adopt AI responsibly or risk overreliance and misuse.

This vulnerability–protection framework is grounded in actual student behavior. It captures how students discuss AI, the ways they incorporate it into their academic work, and the challenges they face in balancing efficiency with ethical considerations. The framework is particularly valuable in contexts where universities have yet to establish clear AI guidelines. In such settings, the absence of shared norms or strong literacy programs may lead students to rely predominantly on convenience or peer behavior, increasing the likelihood of misuse or dependence. By considering both vulnerability and protective factors together, the framework provides a more realistic and actionable understanding of student decision-making than models that focus solely on either risk or competence.

Despite the growing literature on AI use in education, several gaps remain. Many studies assume that theoretical constructs, such as AI literacy or ethical awareness, naturally align with students' perceptions, without empirically validating how these constructs manifest in actual behavior. Furthermore, few studies have examined vulnerability and protective factors in a unified model, limiting our understanding of their interaction. Research also remains contextually narrow, with limited evidence from non-Western universities or environments where institutional policies, resources, and student experiences differ. Finally, most studies focus on self-reported intentions to use AI ethically rather than on actual usage patterns, leaving a gap in our knowledge of real behavioral outcomes.

In light of these limitations, there is a clear need to explore how students' perceptions cluster into risk-oriented and protective dimensions and how these dimensions influence their intention to use AI. Employing exploratory factor analysis enables researchers to uncover these latent structures empirically, rather than relying solely on theory. By doing so, it becomes possible to understand not only the factors that drive AI adoption but also the mechanisms that help students exercise caution and ethical judgment. Such insights are crucial for universities seeking to support responsible AI use: rather than simply discouraging AI, institutions can strengthen protective factors like literacy and ethical awareness, equipping students to navigate AI tools in ways that enhance learning while maintaining integrity.

3. Methodology

This study adopted a positivist research philosophy as it seeks to identify the underlying latent factors through a quantitative measurement (Creswell & Creswell, 2018). A cross-sectional survey design was adopted to examine how risk and safety factors influence students' behavioral intentions to use AI tools in academic settings (Creswell & Creswell, 2018). A structured questionnaire was developed using previously validated items from the literature on technological acceptance, academic integrity, moral psychology, and AI literacy. As the current study explores how these items cluster into dimensions relevant to vulnerability and protection in practice, an exploratory approach is considered more appropriate. Because the research wanted to discover latent structures rather than validate a fixed theoretical model. Therefore, exploratory factor analysis was used to identify the underlying factor structure of the vulnerability and protective factors (Nz, 2019).

The target population for this study comprises undergraduate and postgraduate students enrolled in both state and private universities in Western Province. For categorization, the study includes four state universities in Western province, which are the University of Colombo, University of Sri Jayewardenepura, University of Moratuwa, and University of Kelaniya, operating under the direct administration of the University Grants Commission (UGC), established by the Universities Act No. 16 of 1978. These institutions are recognized as fully-fledged public universities governed by the UGC (Universities Act, No. 16 of 1978, 2009).

Similarly, the study selected four private institutions operating in Western province, which have been officially recognized as Degree-Awarding Institutes under Section 25A of the same Act. To match the selected state universities, private institutes were selected under the criteria of the number of degree programs available. Selected institutes are the National School of Business Management (NSBM), Sri Lanka Institute of Information Technology (SLIIT), National Institute of Business Management (NIBM), and Colombo International Nautical and Engineering College (CINEC). Among the UGC degree awarding institutes, the above four universities have more diversified degree programs. Therefore, they were selected by assuming that they would be the best matches. These institutions are authorized by the UGC to offer degree programs within Sri Lanka's higher education framework (Universities Act, No. 16 of 1978, 2009).

According to the most recent UGC statistical report (2022), a total of 49,500 students were enrolled in undergraduate programs for selected universities (including both internal and external students), and 19,141 students were enrolled in postgraduate programs, bringing the total to approximately 68,641 students in selected state universities (UGC, 2022). In the private sector, data from the British Council (2024) indicated that 20,052 students were enrolled in private degree programs. This number reportedly increased to 42,000 students by the year 2025, as stated in a recent article by the Daily News (Francisco, 2024).

Therefore, based on data from the 2021/2022 academic year, the estimated total student population across selected state and private universities in Western province stands at approximately 88,693 students. This figure serves as the foundational population for the present study, capturing the landscape of higher education enrolment within the Western province.

Data were collected from 522 students, using a non-probability purposive sampling approach (Saunders et al., 2019). This sample size exceeds the commonly suggested minimum requirement for factor analysis (5–10 participants per item), ensuring adequate statistical power for EFA (Yong & Pearce, 2013).

A structured survey was conducted to capture students' self-reported perceptions of AI literacy, ethical awareness, and perceived usefulness, ease of use, social influences, institutional pressures, and behavioral intentions. These variables were informed by prior studies on technology adoption, academic integrity, and ethics, but how they were integrated into vulnerability and safety dimensions was intentionally left open to empirical discovery. Therefore, EFA was used to investigate how these items naturally clustered together in students' minds, providing a data-driven basis for the model tested in the subsequent analysis.

3.1. Instrument Development

The questionnaire was administered in a self-administered format, enabling respondents to fill it out on their own without the researcher's direct participation. The data collection process was executed from July to the end of August 2025.

The questionnaire consisted of three main sections, each designed to assess a different set of constructs related to students' engagement with AI tools. As vulnerability factors, the study included 16 items representing students' risk-oriented motivations to use AI, derived from four well-established constructs as represented in Table 1.

Table 1: Vulnerability factors list

Construct	Factor ID	Vulnerable factor items
Perceived ease of use	*V1*	*Ease of use of AI tools and technologies*
	V2	*Ease of learn by AI tools and technologies*
	V3	*Clear and understandable interaction with AI tools and technologies*
	V4	*Becoming a skillful person by using AI tools and technologies*

Perceived usefulness	*V5*	*Efficient learning using AI tools and technologies*
	V6	*Accomplishing academic tasks quickly using AI tools and technologies*
	V7	*High accessibility and no limitations to using AI tools and technologies.*
	V8	*Receiving higher scores using AI tools and technologies*
Social influence	*V9*	*Influence of classmates*
	V10	*Influence of lecturers*
	V11	*Influence of well-known people and social media*
	V12	*Influence of parents and family members*
Institutional pressure	*V13*	*Having strict guidelines for coursework*
	V14	*Having strict enforcement of academic integrity*
	V15	*Availability of policies and rules regarding assignments, exams, and usage of technology*
	V16	*Pressure from the educators to generate high-quality assignments*

These constructs were selected because they have consistently been shown to influence technology use across educational and occupational contexts. Items were adapted from prior literature on the Technology Acceptance Model (TAM), social influence in digital behavior, and institutional determinants of academic conduct. Together, these items were expected to capture various psychological and contextual forces that may push students toward relying more heavily on AI tools, especially under time pressure, academic workload, or social expectation.

The second group consisted of 9 protective factors representing students' protective characteristics, which may help them regulate or limit inappropriate AI use. These items reflected two key constructs. The following Table 2 displays the constructs and their factors.

Table 2: Protective factors list

Construct	Factor ID	Protective factor items
AI literacy	P1	Understanding of human-machine interaction that AI performs
	P2	Understanding of how AI generates information using big data
	P3	Understanding of the limitations and opportunities of using AI
	P4	Ability to assess the advantages and disadvantages that AI entails
	P5	Reliability of information generated by AI
Ethical awareness	P6	Awareness of using fully AI-generated content is cheating in terms of academic
	P7	Awareness of ethical practices using AI tools in academics
	P8	Following the ethical guidelines provided by the university
	P9	Avoiding malicious and unethical practices situationally

These constructs were included because growing literature suggests that literacy and ethical reflection help students critically evaluate AI outputs and make informed choices rather than relying solely on convenience or pressure.

Behavioral intention to use AI tools was measured using three items adapted from the TAM. Given that BI is a central predictor of actual behavior in TAM research, it was used as the dependent variable in the final regression analysis.

All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Prior studies have shown that Likert-type scales are effective for measuring psychological perceptions and provide sufficient variability for factor analysis.

3.2. Ethical Consideration

The study followed standard ethical guidelines for research involving human participants. All respondents were informed about the study's purpose, the voluntary nature of participation, anonymity, and their right to withdraw without consequence. No identifiable or sensitive personal data was collected. Data were stored securely and used solely for academic purposes.

4. Results and Discussion

4.1. Preliminary Data Screening

Table 3: Normality values

Factor	Skewness	Kurtosis
VF10	.668	.138
VF11	.177	-.610
VF12	-.211	1.228
VF13	.157	1.338
VF14	-.972	3.112
VF15	.346	2.259
VF16	-.898	.854
PF1	-.273	-1.337
PF2	-.393	-1.156
PF3	-.943	.381
PF4	-.828	.224
PF5	.707	-.786
PF6	1.092	.053
PF7	-.774	2.005
PF8	-.587	.330
PF9	-1.084	1.613

Before conducting the main statistical analyses, a series of preliminary screening processes were done to ensure that the data met the necessary assumptions for EFA and reliability testing. These processes included checks for missing values, outliers, and normality assessment.

The initial stage involved examining the dataset for missing values across all questionnaire items. The inspection revealed that the dataset contained **no missing values**, indicating that all 522 participants completed every item in the survey instrument. As a result, no data imputation or case deletion techniques were required, and the full sample was retained for subsequent analyses. The absence of

missing data enhances the validity of the results and supports the robustness of the factor extraction process.

To determine whether the data met the assumption of normality required for factor analysis, **skewness and kurtosis values** were examined for each survey item. All values fell within the acceptable threshold of **±2** (Leguina, 2015)**,** indicating that the data approximated a normal distribution. This level of normality is considered satisfactory for analyses such as PCA and EFA, specially with a sample size exceeding 500 participants.

4.2. Exploratory Factor Analysis

After the preliminary screening, the data were directed to the main analysis. The main analysis was done using SPSS. To determine whether the items were appropriate for factor extraction, two standard statistical tests were performed: the **Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy** and **Bartlett's Test of Sphericity.** The KMO value obtained was **0.784,** which exceeds the recommended minimum threshold of 0.60. According to Kaiser's (1974) classification, values between 0.70 and 0.79 are considered **"middling",** indicating that the correlations among items are sufficiently compact and the sample size is adequate for producing reliable factors. Thus, the data were believed suitable for EFA. Bartlett's Test of Sphericity was significant (P<0.001), indicating that the correlation matrix was not an identity matrix and that meaningful relationships exist among the measured variables. This further confirms the suitability of applying factor analysis.

Table 4: Result Summary of Items.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		*.784*
Bartlett's Test of Sphericity	*Approx. Chi-Square*	*10764.384*
	df	*253*
	Sig.	*0.000*

Table 5: Cronbach's Alpha Value

Cronbach's Alpha	N of Items
0.842	25

After establishing that the data were suitable for factor analysis, an EFA using PCA with Varimax rotation was conducted to identify the underlying structure of vulnerability and protective factors

associated with students' behavioral intentions toward AI tool usage. From the initial reliability calculation for all factors, which indicated 0.84, it was the most acceptable value of the variable analysis (Yong & Pearce, 2013).

Table 6: Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	6.764	29.410	29.410
2	3.598	15.642	45.053
3	2.335	10.152	55.204
4	1.888	8.207	63.411
5	1.452	6.315	69.726
6	1.167	5.072	74.798
7	1.048	4.554	79.352
8	.732	3.181	82.533
9	.701	3.047	85.581
10	.654	2.842	88.423
11	.514	2.234	90.656
12	.431	1.873	92.529
13	.372	1.616	94.145
14	.302	1.312	95.457
15	.276	1.199	96.656
16	.202	.880	97.535
17	.138	.602	98.137
18	.110	.480	98.617
19	.104	.451	99.068
20	.090	.393	99.461
21	.052	.228	99.689
22	.048	.207	99.896

23	.024	.104	100.000

The Total Variance Explained table indicated that **seven components** had eigenvalues greater than 1.0, satisfying Kaiser's criterion for factor retention (Finch, 2020). Together, these seven components accounted for **79.35%** of the total variance, which is considered a strong and acceptable level of explanatory power in social science research. The substantial proportion of explained variance (79.35%) indicates that the measured items provide a strong representation of the constructs under study. Extracting seven components aligns with both statistical criteria and the conceptual framework, distinguishing vulnerability and protective factors. The extraction of several components also suggests that students' attitudes and behaviors regarding AI tool usage are multi-dimensional, capturing diverse influences such as cognitive readiness, ethical awareness, time pressure, perceived usefulness, and institutional expectations.

Next, the Principal Component Analysis with Varimax rotation, seven distinct components emerged, representing the latent structures underlying the vulnerability and protective items. Factor loadings greater than 0.50 were considered significant for interpretation, and items that loaded cleanly onto a single factor were retained (Finch, 2020). The extracted factors were examined in the context of the study's conceptual framework to identify which components corresponded to vulnerability factors and which corresponded to protective factors.

Overall, the EFA results reveal a **multi-dimensional structure** comprising **four vulnerability factors** and **two protective factors,** consistent with the conceptual framework of the study.

Table 7: Rotated component matrix

	1	*2*	*3*	*4*	*5*	*6*	*7*
VF5	.898						
VF7	.896						
VF6	.879						
VF2	.777						
VF1	.758						
VF4	.693						
VF3	.679						

VF8	.505					
PF8		.907				
PF9		.889				
PF7		.807				
PF1			.917			
PF2			.888			
PF3			.800			
PF4			.689			
VF16				.788		
VF14				.737		
VF13					.807	
VF15					.755	
VF12						.772
PF6						.709
VF10						.577
VF11						.870

The internal consistency of each factor was assessed using **Cronbach's alpha**, which measures the reliability of items within a factor. Reliability analysis ensures that the items grouped under each factor consistently capture the same underlying construct, providing confidence in the factor scores used in subsequent analyses.

The protective factors (Components 2 and 3) and the primary vulnerability factor (Component 1) all demonstrated **high reliability (α > 0.89),** indicating that the items consistently measure the intended constructs. This suggests that students' perceptions regarding AI literacy, ethical awareness, and perceived ease of use/usefulness form coherent and internally consistent dimensions.

Table 8: Summary of factor interpretation

Factor	Type	Items	Description	Cronbach's Alpha
Component 1	*Vulnerability*	*VF1–VF8*	*Perceived Ease of Use / Usefulness*	*0.908*
Component 2	*Protective*	*PF7–PF9*	*Ethical Awareness*	*0.891*
Component 3	*Protective*	*PF1–PF4*	*AI Literacy*	*0.890*
Component 4	*Vulnerability*	*VF10, VF12, PF6*	*Institutional Pressure*	*0.460*
Component 5	*Vulnerability*	*VF13, VF15*	*Peer / Social Influence*	*0.664*
Component 6	*Vulnerability*	*VF14, VF16*	*Task / Performance Pressure*	*0.712*
Component 7	*Vulnerability*	*VF11*	*Residual Specific Vulnerability*	*-*

Component 6 (Task/Performance Pressure) exhibited good reliability (α = 0.712), while Component 5 (Peer/Social Influence) showed acceptable reliability (α = 0.664). Although slightly lower than the ideal threshold of 0.70, these values are considered sufficient for exploratory research, especially given the small number of items in these factors.

Component 4 (Institutional Pressure) had a low reliability (α = 0.460), suggesting that the three items grouped under this factor may not consistently measure the same construct. This could be due to the diversity of institutional contexts or differences in students' perceptions of time pressure, workload, and governance. Researchers are advised to interpret findings related to this factor with caution and consider potential refinement in future studies.

Component 7 consists of a single item (VF11), and therefore, Cronbach's alpha is not applicable. Single-item factors are sometimes retained in exploratory analyses if the item shows a strong loading and conceptual relevance.

Overall, the majority of factors demonstrated sufficient reliability to be used as composite scores in subsequent analyses. The high-reliability factors (Components 1, 2, and 3) provide a robust basis for examining the influence of vulnerability and protective dimensions on students' **behavioral intentions**

to use AI tools. Factors with lower reliability (Components 4 and 5) should be interpreted cautiously in regression analyses, and their findings may indicate areas where additional measurement refinement is needed in future research.

5. Conclusion

This study explored students' behavioral intention to use AI tools through a Vulnerability–Protection framework, which considers both factors that increase vulnerability to risky AI usage and factors that mitigate such risks. Using survey data from 522 undergraduate and postgraduate students across public and private universities in Colombo District, the study employed Exploratory Factor Analysis and reliability testing to explain the underlying dimensions of vulnerability and protection.

The analysis revealed a seven-factor structure comprising four vulnerability factors: perceived ease of use/usefulness, institutional pressure, peer/social influence, and task/performance pressure, and two protective factors: AI literacy and ethical awareness, with one residual item representing specific vulnerability. The findings indicate that students are primarily driven to use AI tools by their perceived utility and ease of use, in line with the Technology Acceptance Model, while external pressures and social norms further support this tendency. At the same time, protective factors such as ethical awareness and AI literacy provide a counterbalance, equipping students to use AI responsibly and ethically. The majority of factors demonstrated good to excellent reliability, although institutional pressure exhibited lower internal consistency, suggesting variability in how students perceive academic demands.

Despite these insights, the study has limitations. The sample is geographically limited to the Colombo District, which may affect generalizability. Some factors, particularly institutional pressure and peer influence, showed moderate reliability, indicating the need for further refinement in future research.

The study offers practical implications for higher education. Universities can enhance AI literacy and ethical awareness through targeted curricula, workshops, and guidelines, empowering students to critically evaluate AI outputs and adhere to academic integrity. Addressing workload and deadlines thoughtfully can reduce the external pressures that drive risky AI use, while fostering a positive peer culture can encourage responsible adoption.

In conclusion, students' intentions to use AI tools are shaped by a dynamic interplay of cognitive, social, and ethical factors. Recognizing both vulnerability and protective dimensions provides a holistic perspective, highlighting the importance of equipping students with knowledge, ethical competence, and supportive institutional environments. By adopting this approach, educators and policymakers can foster responsible, informed, and ethical engagement with AI technologies in higher education.

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A Morphological Analysis of Sri Lankan English Neologisms in Youtube Content

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Abstract

Language evolves through neologisms in response to individuals' societal circumstances. This study intends to conduct a morphological analysis of the Sri Lankan English neologisms identifiable in selected Sri Lankan YouTube videos in English. In this mixed method study, the purpose was to identify the Sri Lankan English neologisms that are apparent in Sri Lankan YouTube videos in English and to identify what are the Sri Lankan English morphological processes that are frequently used in the formation of identified neologisms and how they help to enhance the Sri Lankanness of the content. Data was collected from a purposive sample of 100 Sri Lankan YouTube English videos selected from 4 Sri Lankan YouTube channels. A content analysis was conducted through which data was analyzed according to the morphological framework built based on the research findings of the scholars; Gunasekera (2005), Senaratne (2009), and Fernando (2012). The analysis yielded 88 Sri Lankan English neologisms, which were used to convey context-specific meanings. Borrowings, compounding, loan blending, and semantic change are the most frequently used Sri Lankan English morphological processes incorporated in creating new words while affixation, clipping, backformation, acronyms, and loan translations have less productivity in creating neologisms.

Keywords*: Sri Lankan English, Neologisms, Sri Lankan English neologisms, Sri Lankan English morphological processes, content analysis*

1. Introduction

Language is a dynamic system that constantly evolves by subjecting to different Social, political, and cultural phenomena. Bharati (2020) states that Language is a social phenomenon that is subjected to many changes as a consequence of social upheavals. Thus, this statement suggests that to fulfill the communicative needs of the speakers, the language can be varied and adapted into different forms. Indeed, with the changes that happen in human lifestyle, culture, and technology, there is a necessity to introduce glossaries with new terms to express ourselves. Henceforth, to fill this linguistic void people create new words as per their desire to express themselves and their thoughts effectively. According to Payack (2008), as per a study conducted by Global Language Monitor, every 98 minutes a new word is added to the English language. These newly formed words can be identified as Neologisms. Crystal (2007) explains neologisms as the formation of new words to accommodate the changes happening in the surroundings and further, she asserts that these new words are accepted by the particular speech community with time.

With the advancement of technology, the time spent on the Internet has increased with the usage of social media, it has become one of the key drivers of language change and evolution. Social media is one of the online media through which people can be involved with each other, find information, communicate, and make friends across the world. Social media platforms such as Facebook, Twitter, Instagram, and TikTok have revolutionized communication, creating new opportunities and challenges for language use and development. Asserting the above factor, Crystal (2007) claims in the 21st century use of social media applications has greatly shaped the way people communicate. Thus, it is evident that social media platforms majorly contribute to creating new words to facilitate the language requirements of the people.

The present study is situated within the World Englishes framework (Kachru, 1986; Schneider, 2007), which explains how localized varieties of English emerge through sustained contact between English and indigenous languages. Within this framework, Sri Lankan English is understood as a nativized variety in which linguistic innovation, particularly morphological innovation, functions as a mechanism of localization. When considering Sri Lankan English, it's vocabulary has been enhanced with the continuous addition of new words formed through the emergence of new trends and social phenomena. It is visible that different morphological processes are used in the construction of these new words with or without the acknowledgment of the speakers. As per the study conducted by Fernando (2012), borrowing is the most productive morphological process that adds new words to the Sri Lankan English vocabulary in comparison to the other processes such as compounding, loan translations, affixation, coinage, acronyms, and abbreviations.

Scholars like Onyedum (2012), Mworia (2015), Nisar (2014), Shahlee and Mustaffa (2019), Nkhata and Jimaima (2020), and Shahlee and Ahmad (2022) have conducted studies on English neologisms

based on social media and have revealed a lot of important findings on neologisms and morphological processes used in creating neologisms which will be discussed in the literature review. When considering the Sri Lankan context scholars like Gunawardana (2018), Wijewantha (2021), and Ranthilini (2022) have researched neologisms added to Sri Lankan English while discussing the morphological processes that created them. Besides, Harankaha (2022) has directed her study to investigate Sri Lankan English neologisms found on social media. Thus, it is conspicuous that an adequate number of studies have been conducted on neologisms related to social media both locally and internationally. Yet, by studying the literature it was visible that even though there are studies conducted on social media, studies conducted specifically on YouTube are quite rare. In the present context, YouTube is quite famous among people as a platform to share creative content and influence videos. Thus, it is a platform where it shares creative content with creative language and the probability of introducing new words is quite high. Per that, an effort to identify and acknowledge some of the neologisms academically is necessary to look at the significant contribution of the process of word formation in the English language which is an ongoing process. Hence, it can be identified that there is a necessity to research identifiable on YouTube. As a consequence, the present study is conducted to identify the Sri Lankan English neologisms in selected Sri Lankan YouTube channels and to discuss the morphological processes used in constructing them.

1.1. Research Objectives

1. To identify Sri Lankan English neologisms from selected Sri Lankan English YouTube videos in English.
2. To discover how content creators have used neologisms to enhance Sri Lankness in their content videos.

1.2. Research Questions

1. What are the Sri Lankan English neologisms identifiable in the selected Sri Lankan English YouTube channels?

2. How have content creators used neologisms to enhance Sri Lankness in their content videos?

2. Literature Review

2.1. Sri Lankan English

Windford (2003) accounts, New Englishes have emerged as a result of contact situations and as a result of the contact situation that has happened between the vernacular languages; Sinhala and Tamil and

English, 'Sri Lankan English' emerged with distinctive features that varies it from the other varieties of English. In supporting to the above claim Künstler et al (2009) elaborate that due to the presence of English language in Sri Lanka for more than 200 years, it is evitable that the English language has been changed, and it has undergone a structural nativization. Schneider (2003) explains structural nativization as a "process that has immediate linguistic consequences, for the drastically increased ranges of communication between the parties involved now makes language use a major practical issue and an expression of a new identity" (p.246). With the emergence of the new variety 'Sri Lankan English', different scholars have defined the term according to their viewpoints and Kandiah (1981) explains that "Lankan English is an independent, distinctive and fully formed linguistic system adequate for the communicative and expressive needs of its users" (p.102). Moreover, Parakrama (1995) further elaborates the above fact stating that Lankan English or Sri Lankan English is a distinctive variety with its own phonological, morphological and syntactic features.

The context of Sri Lankan English in World Englishes can be demonstrated through the model of 'Three concentric circles of Englishes' by Kachru (1991). He explains that World Englishes spread in three circles as inner circle, outer circle and expanded circle in which Sri Lankan English lies in the outer circle which represents the institutionalized non-native varieties of English (ESL). Moreover, Kachru (1985) explains that outer circle is with two major features as English is one of the two or more languages in the linguistic repertoire of bilinguals or multi-linguals and the second is, English language has acquired an important status in the language policies of the multilingual countries. Kachru (1985) further goes on explaining the fact that, norm developing countries (outer circle countries) are both endonormative (local educated variety as the model for teaching and learning) and exonormative (native variety for emulation and teaching).

2.2. Emergence and Spread of Neologisms in Social Media

Onyedum (2012) in his study "Social media neologisms: A morpho-semantic analysis" focuses on the analysis of word formation, word classes, and meanings of neologisms identifiable on Facebook, Twitter, LinkedIn, and YouTube. As the results of his study, 70 neologisms were identified and five morphological processes; blending, compounding, affixation, semantic extension, and coinage were recognized as the most productive strategies in the construction of neologisms. In partial to the previous study, Nisar (2014) in her study "Social media neologisms in modern lexical system of English language" asserts that most of the neologisms that are identifiable in social media belong to the process of semantic extension, compounding, blending, and coinage. Moreover, this study reveals that neologisms can be classified into the word classes of nouns and verbs.

In contrast to the previous studies, Mworia (2015) claims that the most productive word formation method to use is the Initialism among the other strategies; compounding, blending, and clipping which

she has found in her study "The use of English neologisms in social media: A case study of Twitter language". In this study, the researcher focuses on what factors influence the production and usage of neologisms in social media and to what extent social media neologisms are effective in Kenyan's context of communication.

Shahlee and Mustaffa (2019) conducted the study "Neologisms in Social Networking among youths" to examine the neologisms used by youngsters on social media platforms in terms of word formation methods and word class. Consequently, the study identifies 90 neologisms which mostly come under the word class of verbs. In addition to that, the study reveals that the highest number of words were created as acronyms. Further, Nkhata and Jimaima (2020) also identify in their study "Neologisms: A Morphological Analysis of Social Media Discourses on the Zambian Online Media" that acronyms are the most productive morphological process in creating neologisms.

2.3. Impact of Neologism in Sri Lankan English

Linguistic, cultural, and technological factors influence the rise and transmission of new terms on social media, playing dynamic roles. In the context of Sri Lankan English, these elements significantly contribute to developing language behavior on web-based communication platforms (Ananda et al., 2023).

"Productive strategies of generating neologisms in Sri Lankan print media" a study conducted by Gunawardana (2018) investigates the productive strategies used in constructing neologisms in Sri Lankan print media. In her study, she identified 43 neologisms through which she revealed that borrowing is the most productive strategy that has been used while loan blending, loan translation, hybrid compounding, and derivation strategies were also identifiable. Moreover, the study reveals that clipping and acronyms are fairly productive and blending and coinage are the least productive strategies for creating neologisms.

Ranthilini (2022) in her study on "Neologisms entering Sri Lankan English in the backdrop of Argalaya: an analysis of print media" researches the expansion of Sri Lankan English vocabulary with new words added as a result of the political turmoil within the country. As a result of this social phenomenon, a set of words has emerged as new vocabulary that has become a part of daily communication. The purpose of this study is to investigate neologisms that have entered the Sri Lankan English vocabulary of print media and to identify the strategies used to create them. Thus, from her study 10 neologisms have been identified, and loan words, loan translations, compounds, and acronyms have been identified as the morphological processes involved in creating those new words.

Harankaha (2022) in her study "A morphological analysis of English language neologisms used in Facebook, Viber and Whatsapp" proclaims that the most widely used methods of word formation are

clipping, acronyms, and abbreviations. In this study, the researcher attempts to focus on social media platforms to investigate how neologisms created in social networking are different from standard English. Moreover, the researcher asserts that the use of neologisms varies according to the user.

However, despite all the studies cited above, no empirical research has been conducted in a systematic or principled way to investigate the extent of Sri Lankan English neologisms identifiable in the social media platform, YouTube. Besides, no study presents evidence of the Sri Lankan English morphological processes involved in creating neologisms in social media, especially on YouTube. It is necessary to mention that excessive amounts of studies have been conducted to examine and analyze the neologisms identifiable in print media and other social media platforms such as Facebook, Twitter, Instagram, and LinkedIn. In contrast, it is evident that little less concern and focus is given to the platform YouTube. Social media platforms like YouTube serve as catalysts for linguistic innovation, providing a platform for individuals to create and disseminate new linguistic forms. Neologisms on YouTube often arise in response to cultural trends, events, or online interactions, showcasing the adaptability and creativity of language users. Thus, it is worth studying language on YouTube to study neologisms, especially in Sri Lankan English since such studies are rare to find. There is a noticeable gap in this particular area that needs to be enhanced by more knowledgeable contributions. Moreover, the study intends to discuss how the content creators have used Sri Lankan English Neologisms to enhance the Sri Lankaness in their content videos which have not been explained in previous studies. Accordingly, the present study aims to identify the Sri Lankan English neologisms identifiable in Sri Lankan YouTube channels while discovering how these Sri Lankan English neologisms involved in making the language more localized with the intention of filling the above gap in the linguistic field.

3. Methodology

Thus, the present study "A morphological analysis of the Sri Lankan English neologisms in YouTube content" employed a mixed method content analysis that encompasses both qualitative and quantitative analysis. The study used qualitative data to focus on examining the neologisms, Sri Lankan English morphological processes, the contexts in which they are used, and the purpose of using them. The quantitative data were analyzed to provide numerical values to provide more validity to the qualitative data collection and analysis. A content analysis is used to determine the presence of certain words or concepts within texts or sets of texts. For the purpose of this study, a Sri Lankan English neologism was operationally defined as a lexical item that (a) is not listed in standard English dictionaries, (b) shows morphological or semantic integration into English, and (c) is used recurrently within Sri Lankan English discourse.

The data for the present study was collected by analyzing 100 Sri Lankan YouTube videos that were taken from 4 Sri Lankan YouTube channels that create content in English. The rationale for selecting YouTube videos is that they can be identified as a platform that recreates real-life situations and provides people with the opportunity to acquire knowledge on a new variety of languages through authentic language usage. YouTube (2018) claims that YouTube is the most popular online video site with users watching 4 billion hours' worth of video each month and uploading 72 hours' worth of video every minute. Hence, it is evident that studying language usage in YouTube videos encompasses an opportunity to analyze language change and how it affects language evolution. Besides, language in YouTube videos is in spoken language or, in other words, speech. YouTube videos deal with authentic situations where they employ authentic or spoken words that are conveyed directly without being mediated or filtered as in any other form of literature and it can be identified as an ideal genre to study neologisms. Accordingly, YouTube videos were selected as the data-collecting instruments for the present study.

The purposive sampling method, also known as judgment sampling, was employed to choose the sample; a participant is purposefully chosen based on the attributes that the subject possesses (Bernard, 2002). Consequently, the purposive sampling method was used in this study to select 100 Sri Lankan YouTube videos from 04 selected Sri Lankan YouTube channels that create content in English. The YouTube Channels are "Block and Dino" which has 877K subscriptions with 98,227,286 views, "Stage light & magic Inc." which has 36.5K subscribers with 4,997,254 viewers, "Eric and Mani" with 163K subscribers with 33,643,133 viewers, and "Aiyo Aiyo" with 175K subscribers with 31,491,444 viewers.

Weber (1990) contends that content analysis is "a research technique that uses a set of procedures to make valid inferences from the content" (p.9). Thus, the procedure of the present study started with identifying the research questions and choosing the samples. Once the sample was chosen, the data were coded into manageable categories on a variety of levels; words, phrases, or sentences related to the classification framework built based on the studies conducted by Gunasekera (2005), Senaratna (2009), and Fernando (2012). The process of coding was basically on selective reduction. Then, the coded text was examined using thematic analysis and descriptive analysis. The present study incorporated the procedure that Neuman (2011) has declared to conduct the content analysis as depicted in the following diagram. The data were approached by first browsing through YouTube videos and then identifying and selecting the neologisms and morphological processes based on the theoretical framework.

Figure 3.1 Content Analysis Process

As per the incorporated content analysis procedure, first all lexical items that deviated from Standard British or American English were extracted from the selected YouTube videos. Second, these lexical items were cross-checked against existing Sri Lankan English literature to distinguish neologisms from established Sri Lankan English vocabulary and from instances of code-switching. Third, the identified neologisms were categorized according to their dominant morphological process based on the classification proposed by Gunasekera (2005), Senaratne (2009), and Fernando (2012).

3.1. Classification Framework

Based on the research findings of Gunasekera (2005), Senaratne (2009), and Fernando (2012), the fundamental classification framework for the present study was developed. The aforementioned experts' research studies were chosen because they provided a thorough investigation on Sri Lankan English morphological processes and found several unique characteristics of Sri Lankan English morphology that were later acknowledged by some other scholars, such as Rajapakse (2008). Accordingly, the collected data from the selected YouTube videos were mainly identified and classified in terms of 13 morphological processes: Borrowings, affixation, compounds, abbreviations, acronyms, tags, duplications, back formation, expressions, and clippings, loan blends, loan translation, and semantic change.

4. Data analysis and Discussion

4.1. Analysis and Discussion of Question 01

Contemporary society can be defined by profound changes in many realms of social life, driven by the rapid development of information and communication technology. The significant impact that social media and the media have on public awareness has further amplified this trend. As a result of these massive changes, language has been altered dynamically demonstrating language's ability to react quickly to outside stimuli, adjust to unfamiliar situations, and develop into a strong and stable system. As a consequence, neologisms have emerged to address different social requirements of the people and Sayadi (2011) claims that neologisms are new words, word combinations, or fixed phrases that emerge in a language as a result of the development of social life, culture, science, and technology.

Pimat (2016) defines neologism as a new word that has been added to the vocabulary of a particular language to fulfill a linguistic need in that language. Colina (2021) further exemplifies that it does not necessarily have to be a word but can be an idiom or an expression that has been incorporated into the speakers' everyday use of a language.

As per the study conducted by Fernando (2012), with the contact situation that happened between English and indigenous languages, Sinhala and Tamil Sri Lankans started to develop a vocabulary that can express the characteristically Sri Lankan thoughts and feelings. Moreover, Fernando (2012) further explains that the focus of the expanded vocabulary is on more topics that investigate deeply into the thoughts and emotions of a wider area of Sri Lankan society and culture.

Thus, this research question aims to identify Sri Lankan English neologisms that can be seen in Sri Lankan English YouTube videos that have been created to fill a linguistic gap in Sri Lankan English. The data that has been collected from 100 YouTube videos is presented under different spheres that have resulted in the creation of neologisms found.

As findings, 88 neologisms have been recognized by analyzing the YouTube videos out of which 79 neologisms have been identified under the category of social and cultural phenomena. As a percentage, it indicates 90% of the entire quantity. Simultaneously, 07 words have been recognized as neologisms related to politics while 02 neologisms have been identified as related to technology. As percentages, they indicate 8% and 2% respectively.

4.1.1. Social and Cultural Phenomena

When considering the neologisms added to the language, it is quite evident that social and cultural situations play a vital role in creating them. These occurrences exhibit how human society is dynamic and always changing, which is reflected in the language that people speak. As per the claim made by Rets (2016), neologisms are more the results of the human conceptual framework than they are significant linguistic signs, as demonstrated by their social and cultural references. They offer proof of

the present patterns in society's evolution and codify the new cultural experiences that it has. As these patterns keep evolving, these movements help linked neologisms find their way into the general public's vocabulary, indicating the start of new sociocultural orientation trends. In a similar vein, specific cultural aspects or circumstances cause new terms or phrases to emerge that describe online behaviors, communication modalities, or processes within the framework of social media and digital technology. Considering this social and cultural situation, Mcdonald (2005) states that studying the neologisms of a particular language is quite beneficial to learning about contemporary cultural values, ways of thinking, and ways of living of the community that speaks that language. Globalization, which spreads ideas and languages from one culture to another and encourages borrowing and contact, is another factor accelerating these changes. As a result, people acquire foreign terms or hybrids to accurately represent specific thoughts and issues in new circumstances. Henceforth, it is conspicuous that social and cultural phenomena create an impact on linguistic innovation, leading to continuous expansion and adaptation of neologisms to reflect the complexities and language requirements of contemporary life. As per the results, 79 neologisms *(see in Appendix 01)* have been identified under this category.

Ex: *Kunukunufying* – This word has the meaning of nagging all the time about thingsthat a person does not have.

Stop always **kunukunfying** men.   (Blok & Dino, 2023)

Colombusted – It is a journal which has all the gossip about the people who live in Colombo.

I read it from **Colombusted.** They know all the dirty details about everyone in Colombo.

(Eric & Mani, 2023)

4.1.2. Technology

Despite social and cultural references, technology also leads to the creation of neologisms or new words with associated meanings in language. Lehrer (2003) proclaims that neologisms are newly coined words or existing words with new meanings that are added to a language to identify new concepts. As it is stated by Abbas (2009), "the ever-changing world of technology has aided a constant changing of the English language" (p.2). He further elaborates that people construct neologisms when there is a necessity to introduce new tools, technologies, and phenomena that require verbal description. Thus, by analyzing the language used in the selected YouTube videos, it is evident that the content creators have constructed new words referring to technology to express new concepts creatively.

Ex: *Techmandawa* – This means a place that helps to heal people who are suffering because of technology.

Tech therapy – It conveys the meaning of providing therapy with the assistance of technology.

(Blok & Dino, 2024)

4.1.3. Politics

Bharati (2020) states that language, being a social phenomenon, is subjected to many changes when there are social upheavals. Hence, political influence on word creation in language is significant. It discloses shifts in societal discourse, beliefs, and government. Ideas, terms, and phrases are frequently created by significant events, groups, and ideologies. These depict changing power dynamics and political settings. Furthermore, words and phrases are frequently introduced or repurposed in political speech by providing new meanings, and linguistic shifts. Thus, linguistic innovation finds abundant inspiration in politics which conveys political ideologies, movements, and confrontations. By analyzing the selected YouTube videos, it was able to recognize 7 Sri Lankan English neologisms (see in Appendix 01) that were inspired by the current political situation of the country. The identified neologisms as below.

Ex: *Baiyyo* – This is a term that refers to people who vote for SLPF.

Toiyyo – This is the term used to call people who are anti-party to SLPF.

Baiyyo, Toiyyo all vote for Chuti putha.   (Blok & Dino, 2021)

SLPFier – people who vote for the political party, SLPF.

UNPier – People who vote for the political party, UNP.

Now he is neither a **SLPFier** nor **UNPier**. He is a **hoier**.

Arsikland – This word is created to refer to Sri Lanka giving the meaning of the land of wonders.

Yahapalanaya – This is a political method used by the government back then to rule the country. Yet, in the present context, the word Yahapalanaya is used with reference to indifferent behavior.

(Stagelight & Magic, 2020)

Koloskova (2022) asserts that the most significant number of frequently used neologisms has been recorded in political discourse, Internet discourse, and everyday discourse. As per the findings of the present study, it is evident that most neologisms are found in everyday discourse while a few numbers of neologisms were found in other discourses. By analyzing 100 selected Sri Lankan YouTube videos, it was able to find 88 neologisms out of which 79 words were created to convey new concepts and meanings concerning social and cultural phenomena. While the majority of neologisms are from everyday discourse, 07 neologisms were found concerning political discourse, and only 02 neologisms were found related to technological discourse.

4.2. Analysis and Discussion of Question 02

The quantitative analysis of the present study reveals that Sri Lankan English morphological processes like borrowings, compounds, Loan blending, semantic change, affixation, clipping, duplication, and loan translation are predominant in forming neologisms. These morphological processes are analyzed concerning their frequency of occurrence in the contents with the aim of making the language more localized. Accordingly, the data reveals that the highest frequency can be seen in the usage of borrowings at 40.48% while the next highest frequencies are visible in compounds at 34.32%, Loan Blending at 14.08%, and semantic change at 11.44% respectively (see in Appendix 02). Thus, the aim of this question is to discuss how content creators have used these processes to create Sri Lankan English neologisms and to make language more localized. In this question, Sri Lankanness means the Sri Lankan aspects conveyed through language like social, cultural, and linguistic elements. It intends to analyze the neologisms to discuss how they have been used to localize the language to make it familiar to the viewers.

4.2.1. Borrowings

As per the findings of the study, it was evident that coining new words tends to use a lot of borrowings compared to other morphological processes. According to Senaratne (2009) "Sinhala, heavenly influences the variety of English spoken in Sri Lankan and Sri Lankan English or Lankan English is used by Sri Lankans who speak English as their first language and Sri Lankans who are bilingual" (p.52). Hence, it is a conspicuous fact that Sinhala or Tamil borrowings have a greater impact in constructing neologisms. However, when people tend to use borrowings rather than translating or replacing it with an English word, it localized the word by giving the original sense making it unique to the Sri Lankan context. Thus, when analyzing the selected Sri Lankan YouTube videos in English, there were abundant situations in which borrowings from Sinhala were used to give a sense of originality and to make the language more familiar to the viewer.

> Ex: "What about this place? **Patta** Instagram friendly."   (Blok and Dino, 2019)

The word '*patta*' in Sinhala is used as an adjective to give the meaning of super or awesome. It is a frequent word used by many young people nowadays in their everyday communication. In this situation, by incorporating this borrowing from Sinhala, the content creators have tried to bring the intense feeling conveyed by that localized word. When it says *'patta'* it has more weight and meaning rather than saying superb for Sri Lankans.

> Ex: "**Moorichchi,** just shut up."   (Blok and Dino, 2022)

In Sri Lankan context the word *Moorichchi* is referred to as the female word for *modaya* which means stupid in English. In this context, instead of saying *you stupid, just shut up!* The content creators have used the borrowing *moorichchi* to add more Sri Lankaness to the language. Since this is an everyday

conversation rather than using standard English, it brings more localized feeling to the context, and it has been done by using the above Sinhala borrowing as a neologism.

Ex: "Don't be a **Coronambek**."   (Blok and Dino, 2022)

With Corona pandemic which influences the whole word many neologisms were added to the vocabulary. Among those Covidiot is a neologism used to call people who act carelessly and spread the virus. In the current context, the content creators have used the Sinhala borrowing coronambek instead of the English neologism with the intension of making the content and the language localized and familiar to the Sri Lankan audience.

4.2.2. Compounds

Gunasekara (2005) ascertains that "compounding is a productive process in Sri Lankan English, with borrowing of compounds from Sinhalese or Tamil, forming of compounds with two English words, and forming of compounds with one word in Sinhalese or Tamil and the other in English. From the findings of the present study, it was revealed that identified compounds contain all the three types mentioned by Gunasekara (2005).

Ex: "I read it from **Colombusted.**"   (Eric and Mani, 2023)

In this context, Colombusted is referred to as a gossip journal that publishes everything about everyone in Colombo. This particular video is an adaptation of the famous English drama series 'The Bridgeton' into the Sri Lankan context. Thus, with the intention of making it more Sri Lankan the content creators have created the neologism colombusted (Colombo + busted) to introduce the gossip journal which is known as Lady Whistledown in the original series. Hence, it is evident that by using Sri Lankan English neologisms the content creators have been able to add a more localized sense to the content as well as language.

Ex: "You are asking me **kakulmattu questions** men."   (Blok and dino, 2024)

In the above situation, kakulmattu questions are referred to as very tricky questions that put someone in trouble. Here, the content cretors have used the word *kakulmattu* instead of tricky to make the term more familiar and localized to the viewers as it makes more sense to Sri Lankans to use the word *kakulmattu* rather than using any other word to intend the meaning tricky. The content creators have delivered the intended idea very clearly and directly by using the above Sri Lankan English neologism.

4.2.3. Loan blends

As it is explained in the previous question, loan blends form neologisms by blending a Sinhala stem into an English suffix. In the present study, a considerable amount of loan blends was visible in different contexts which have been used to express and identify new concepts and ideas with a localized sense.

Ex: **Avaretus Pol Enavas**   (Block and Dino, 2020)

This is a title created for a person who used to come to the gym on a very rare basis. In Sinhala to imply things that happen very rarely, Sri Lankans use the phrase *'Avareta pol enawa wage'.* Thus, in order to deliver this meaning in a direct manner with the Sri Lankan sense the creators have converted it into a neologism by using the method loan blends.

Ex: Don't you think you can come to my house and **nondify** me in front of my friends?

(Blok and Dino,2023)

In this context, the loan blend *nondify (nondi + fy)* has been used as a verb to convey the idea of insulting someone. Even in a situation where the content creators have the possibility to use the verb to insult, they tend to use the Sri Lankan English neologism as it is more productive to use the word *nondi* to imply the intended meaning since it is a very frequent word used by most of the Sri Lankans nowadays.

4.2.4. Semantic change

In the present study, it was identifiable that YouTube content creators have used the morphological process of semantic change in a very creative manner to construct Sri Lankan English neologisms to convey new concepts and meanings as they intend to deliver to the Sri Lankan audience.

Ex: "You are the **maalu** in my **maalu paan**." (Eric and Mani, 2023)

Maalu paan is quite a famous food in Sri Lanka which is a bun stuffed with a fish curry. Thus, fish is the most essential ingredient in making *maalu paan* or fish bun. In this context, these borrowings have been used by giving new meanings through the process of semantic change. Here, the word maalu or fish is referred to the loved one. Hence, the phrase *You are the **maalu** in my **maalu paan*** intends to deliver the meaning that *you are the most important person in my life*. Moreover, it intends to convey the meaning of how compatible they are together. By using the borrowings maalu and maalu paan by giving new meanings have delivered the intended meaning in a more localized and creative manner.

Sri Lankan English is a new variety of English that emerged as a result of the contact situation that happened between English and indigenous languages Sinhala and Tamil. With the influence of the indigenous languages, Sri Lankan English exhibits distinctive features, especially in the areas of morphology and vocabulary it tries to convey the Sri Lankanness. Kachru (1986) explains that the new varieties of English became transplanted languages, and he defines transplanted language as follows:

"… a transplanted language is cut off from its traditional roots and begins to function in new surroundings, in new roles and new contexts. This newness initiates changes in language. It is these changes which eventually result in certain characteristic linguistic manifestations and are identified with labels such as the 'Australianness' in one variety, the 'Americanness' in another variety, or 'Indianness' in still another variety of English" (p.130).

Thus, it is evident that the Sri Lankan English neologisms which are the findings of the present study are the results of the changes in certain linguistic manifestations that show Sri Lankanness of the language.

A significant observation made in the present study is that Sri Lankan YouTube channels Blok and Dino and Eric and Mani who create contents in English tend to speak a lot in Sri Lankan English while creating more Sri Lankan English neologisms as their target audience is the Sri Lankans who speak English as their native or the second language. Simultaneously, it was noticeable that the YouTube channel StageLight and Magic tend to use Standard English in speaking as their target audience is more of educated native speakers of English in Sri Lanka. Thus, they have incorporated Sri Lankan English neologisms only to identify certain terms. This finding can be further elaborated by the statement made by Fernando (1977). Fernando (1977) refers to two groups of bilingual speakers in Sri Lanka where group one typically shows a highly Anglicized lifestyle and speaks a language closer to Standard English. Simultaneously, the group two bilinguals are generally people in the lower middle class and at the working class who regards English as a foreign language. They have adopted a variety of languages with the influence of their first language for convenience in usage.

As it has been described in the Literature review, Sri Lankan scholars Wijewantha (2021), Ranthilini (2022), and Gunawardana (2018) have researched neologisms in Sri Lankan print media. As per their research findings, morphological processes of loan words, loan translations, compounds, acronyms, abbreviations, and derivation have the highest productivity in creating neologisms. Moreover, Harankaha (2022) in her study which was conducted on social media platforms: Facebook, WhatsApp, and Viber revealed that morphological processes of clipping, acronyms, and abbreviations have the highest potential of creating neologisms. As depicted above, the previous studies have been conducted in written contexts. In contrast to their findings, the present study revealed that in spoken contexts like YouTube where people share creative and everyday situations tend to create neologisms frequently by using morphological processes borrowings, compounds, loan blending, and semantic change with the purpose of enriching the Sri Lankaness in the language.

5. Conclusion

As the key finding of the present study, it was evident that Sri Lankan YouTube creators who create content in English construct Sri Lankan English neologisms to convey new ideas and concepts by using more localized language rather than by using standard English. Thus, in creating these neologisms the content creators have frequently used the Sri Lankan English morphological processes borrowings, compounds, loan blends, and semantic change with the high involvement of the indigenous languages Sinhala and Tamil.

In addition to the above key revelation, it was conspicuous that Sri Lankan YouTube content creators have constructed new words that are slang which can be highly visible in the informal spoken discourse rather than in the formal discourse. It shows the power of creating neologisms in the oral language of the spoken discourse in conveying new concepts and meanings in a manner that is familiar and easily comprehensible to the people.

The present study shed light on Sri Lankan English neologisms apparent in Sri Lankan YouTube videos in English. The study explored the abundant usage of various Sri Lankan English neologisms and how content creators have used those neologisms productively within the videos to address the audience.

5.1. Limitations of the Present Study

In the process of conducting the present study, the researcher has identified several limitations. The main limitation was the selected sample group and the size of the data collection. The researcher has decided to collect data only from 100 YouTube videos. Thus, if the data collection had been widened to the spectrum of social media including Facebook, Instagram, and Twitter, it could have presented a larger variety of Sri Lankan English neologisms. Moreover, the other limitation of this study is that it only used quantitative and qualitative content analysis methods. If the researcher had used discourse analysis together with content analysis the findings could have been enhanced.

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Appendix

Appendix 01

Neologism	Meaning	Morphological Process	Source
Patta	It means excellent or brilliant	Borrowings	පට්ට (Patta) Travels https://youtu.be/y6KfrWVE-Jo
Badu Sira	A person who takes things by force	Borrowings	Types of Sri Lankans at the Supermarket https://youtu.be/uYBpyopzdxQ
Coronambek	This means covidiot spreads Corona	Borrowings	Corona විරිදුව https://youtu.be/zm3lsRWhms0
Jalcharus	Getting things done without using the proper manner	Borrowings	ප්‍රීති Christmas Games https://youtu.be/gwdEvPAWDfM
Nana	It is referred to as a male Muslim	Borrowings	බඩුKARAYOS https://youtu.be/gyC5QpJe33c
Memes	Funny posts on FaceBook	Borrowings	බඩුKARAYOS https://youtu.be/gyC5QpJe33c
Kuna	It is referred to as a stingy person	Borrowings	Tuition Wars https://youtu.be/fB5vwo-IwJU
Bokka	It means a very close friend	Borrowings	The Assembly https://youtu.be/_t3HvL-P9QM
Supiri	It means superb	Borrowings	Bank Thief https://youtu.be/ygB9w-3T1eM
Kadimudiya	A person who is in a rush	Borrowings	Types of Sri Lankans at the Supermarket https://youtu.be/uYBpyopzdxQ

Billa	A person who pays bills at the supermarket	Borrowings	බඩුKARAYOS https://youtu.be/gyC5QpJe33c
Gobbaya	A stupid person	Borrowings	The Bad Cop https://youtu.be/jHPjeQJGwuk
Galsan	A person who steals stuff	Borrowings	Types of Sri Lankans at the Supermarket https://youtu.be/uYBpyopzdxQ
Watha case	It means someone annoying	Compounds	How to balance your බබා(Baba) https://youtu.be/8JlzfdNRO_0
Kunuweera	People who try to be heroes by talking about garbage disposal.	Compounds	Meet the Kunuweeras https://youtu.be/9nT0tIE0RJU
Dhanakunuweera	A rich person who talks about garbage disposal and does the opposite	Compounds	Meet the Kunuweeras https://youtu.be/9nT0tIE0RJU
Ginikunuweera	A person who burns all the plastic	Compounds	Meet the Kunuweeras https://youtu.be/9nT0tIE0RJU
Bailakunuweera	A person who gives big talks about proper garbage disposal but does the opposite	Compounds	Meet the Kunuweeras https://youtu.be/9nT0tIE0RJU
Bukiyekynuweera	A person who talks about garbage disposal on Facebook	Compounds	Meet the Kunuweeras https://youtu.be/9nT0tIE0RJU
Thaththa Wars	An argument between two fathers	Compounds	තාත්තා (Thaththa) Wars https://youtu.be/WyBcbAMAHpM
Backseat randepeya	The drama which happens in the backseat of a cab ride	Compounds	Cabsperiences https://youtu.be/B2B38BQdZTw

Corona Virinduwa	A song based on Coronavirus	Compounds	Corona විරිඳුව https://youtu.be/zm3lsRWhms0
Wal Tour	This means a tour that goes on with bad intentions.	Compounds	The ඉස්සීම https://youtu.be/VK1lBBok8Q8
Preethi Christmas	It means happy Christmas	Compounds	ප්‍රීති Christmas Games https://youtu.be/gwdEvPAWDfM
Deadly Guti Sambolay	A name of a game in which players have to hit each other's by balls.	Compounds	ප්‍රීති Christmas Games https://youtu.be/gwdEvPAWDfM
Kawakatu Petti Goal	A name of a game which plays like football	Compounds	ප්‍රීති Christmas Games https://youtu.be/gwdEvPAWDfM
Important Prashna	It means important questions	Compounds	ප්‍රීති Christmas Games https://youtu.be/gwdEvPAWDfM
Local but kawalam	It means local but mixed	Compounds	Blokula https://youtu.be/0FBgfoXI9q0
The Haparena	It is a name of a song	Compounds	Blokula https://youtu.be/0FBgfoXI9q0
Scene eka	It means what is the problem	Compounds	බඩුKARAYOS https://youtu.be/gyC5QpJe33c
Promoshanthi	It refers to ladies who promote goods at supermarkets	Compounds	Types of Sri Lankans at the Supermarket https://youtu.be/uYBpyopzdxQ
Choka Stuff	It means cheap stuff	Compounds	Couple Wars https://youtu.be/DQJT24egI7c
Hora catch	It means secret lover	Compounds	Tuition Wars https://youtu.be/fB5vwo-IwJU

Bus picco	This refers to people who are crazy over buses	Compounds	Tuition Wars https://youtu.be/fB5vwo-IwJU
Pushup Putha	A person who always does pushups	Compounds	The Gymming Planet (Types of Sri Lankans at a Gym) https://youtu.be/YzmBcNAPJZo
The Halparu Ghost	A useless person	Compounds	Lionel the හාල්පාරු Ghost https://youtu.be/KJQu0Q_xFbU
Butha Busters	It means ghostbusters	Compounds	Lionel the හාල්පාරු Ghost https://youtu.be/KJQu0Q_xFbU
Lankan Matchmaking	Matchmaking in the Sri Lankan Context	Compounds	Lankan Matchmaking https://youtu.be/RntTW9YwFys
Kakulmattu questions	It means tricky questions	Compounds	Lankan Matchmaking https://youtu.be/RntTW9YwFys
Maru Amaru	A person with the difficulty to keeps the stuff in correct place	Compounds	Types of Sri Lankans at the Supermarket https://youtu.be/uYBpyopzdxQ
Badu Sira	A person takes goods by force	Compounds	Types of Sri Lankans at the Supermarket https://youtu.be/uYBpyopzdxQ
Thadha Retreat	It means a serious retreat	Compounds	A Christmas Quarrel(වලිය) https://youtu.be/G7Hp9e2GZno
Bloody Kuna	A very stingy person	Compounds	A Christmas Quarrel(වලිය) https://youtu.be/G7Hp9e2GZno
The hunt for Budale	It means finding the hidden inheritance	Compounds	The Hunt for the බුදලේ https://youtu.be/LbYiTGXQQxQ
Wedding Baila	A song without context	Compounds	Wedding බයිලා https://youtu.be/bfUs9eKhBM4

Kachal friend	An annoying friend	Compounds	Wedding බයිලා https://youtu.be/bfUs9eKhBM4
Colombusted	It refers to a journal that covers everything about Colombo	Compounds	Bridgerton Sri Lanka | EP 2 https://youtu.be/3NEzC-bqBnk
Weligama behavior	It refers to the typical behavior of the Weligama boys	Compounds	Operation Lanka | EP 2 https://youtu.be/klIh_LTXqXc
Cabsperience	It means cab experience	Compounds	Cabsperiences https://youtu.be/B2B38BQdZTw
Thanhadasas	People who are stingy over materialistic things	Loan Blends	The තණ්හාdasas *(Annex 3.15)* https://youtu.be/8zIaAuzDaSM
Unandaas	Very enthusiastic people	Loan Blends	Types of Sri Lankans at the Movies https://youtu.be/H4VVADbqsEU
Trumpachchi	People who are very tall and there for cover the screen at cinemas for the people at the back row.	Loan Blends	Types of Sri Lankans at the Movies https://youtu.be/H4VVADbqsEU
Kaamadasas	People who always eat	Loan Blends	Types of Sri Lankans at the Movies https://youtu.be/H4VVADbqsEU
Avaretus Pol Enavas	People who rarely come	Loan Blends	The Gymming Planet (Types of Sri Lankans at a Gym) https://youtu.be/YzmBcNAPJZo
Sevelus Snapus	Old men who try to talk to girls in a romantic manner	Loan Blends	The Gymming Planet (Types of Sri Lankans at a Gym) https://youtu.be/YzmBcNAPJZo

Weightus Thanhavas	People who do not share weight lifts at the gym	Loan Blends	The Gymming Planet (Types of Sri Lankans at a Gym) https://youtu.be/YzmBcNAPJZo
Kaiyus Maximus	People who talk continuously	Loan Blends	The Gymming Planet (Types of Sri Lankans at a Gym) https://youtu.be/YzmBcNAPJZo
Fullus Shittus	People who try to show off in front of girls	Loan Blends	The Gymming Planet (Types of Sri Lankans at a Gym) https://youtu.be/YzmBcNAPJZo
Gymas Gedaras	People who live in the gym	Loan Blends	The Gymming Planet (Types of Sri Lankans at a Gym) https://youtu.be/YzmBcNAPJZo
Badukarayos	People who distribute goods	Loan Blends	බඩුKARAYOS https://youtu.be/gyC5QpJe33c
Godian	People who are not modernized	Loan Blends	Lankan Matchmaking https://youtu.be/RntTW9YwFys
Nondify	To insult someone	Loan Blends	A Christmas Quarrel(වැලිය) https://youtu.be/G7Hp9e2GZno
Walikukula	In Sinhala Walikukula means Jungel fowl. Yet, in this context, it refers to a person who always gets into arguments and fights.	Semantic Change	Types of Sri Lankans at the Movies https://youtu.be/H4VVADbqsEU
Dial	In English dial means the face of a clock or to call for a person using a phone. In the present context, it is referred to identify a person.	Semantic Change	Types of Sri Lankans at the Movies https://youtu.be/H4VVADbqsEU

Learners	This means people who still acquire the knowledge to do something. Yet, in the current context, it is used to call people who do not know how to control a trolly properly at a supermarket.	Semantic Change	Types of Sri Lankans at the Supermarket https://youtu.be/uYBpyopzdxQ
Chat Bot	It is given the meaning of a person who always talks without stopping.	Semantic Change	Cabsperiences https://youtu.be/B2B38BQdZTw
Deal man	It means people who always talk about business deals.	Semantic Change	Cabsperiences https://youtu.be/B2B38BQdZTw
Aunty networks	This means a person who is having relationships with older women.	Semantic Change	Lankan Matchmaking https://youtu.be/RntTW9YwFys
Track	This means not in the right mind.	Semantic Change	The Hunt for the බදලේ https://youtu.be/LbYiTGXQQxQ
Maalu paan	It is a food item in Sri Lanka but in the current context, it is referred to as a loved one.	Semantic Change	Bridgerton Sri Lanka | EP 2 https://youtu.be/3NEzC-bqBnk
Weligama behavior	Typical behavior of the boys in Weligama who go after girls while catcalling.	Semantic Change	Operation Lanka | EP 2 https://youtu.be/klIh_LTXqXc
Cheese to your Kottu	This phrase means to be an important person in someone's life	Semantic Change	Bank Thief https://youtu.be/ygB9w-3T1eM

Dam wenawa Dum wenawa	It means to get confused over something	Semantic Change	Bank Thief https://youtu.be/ygB9w-3T1eM
Malu in my Maalu Paan	This phrase means to be an important person in someone's life	Semantic Change	Bridgerton Sri Lanka | EP 2 https://youtu.be/3NEzC-bqBnk
Billa	In Sinhala Billa means a person who scares people special children but, in this context, it means a person who always pays bills at the supermarket.	Semantic Change	Types of Sri Lankans at the Supermarket https://youtu.be/uYBpyopzdxQ
Kunukunufying	Kunu Kunu + fy + ing That means always nagging	Affixation (double suffixation)	A Christmas Quarrel(වල්ය) https://youtu.be/G7Hp9e2GZno
Pitstopper	Pit + stop + er A person who always stops at different places while on a journey.	Affixation (double suffixation)	Cabsperiences https://youtu.be/B2B38BQdZTw
Glam	Glam for glamorous	Clipping	A Christmas Quarrel(වල්ය) https://youtu.be/G7Hp9e2GZno
Dum Dum	Dumb Dumb Use to call a stupid person	Duplication	A Christmas Quarrel(වල්ය) https://youtu.be/G7Hp9e2GZno
Golden Boy	It is the translation for *Rattaran Putha* in Sinhala	Loan translation	A Christmas Quarrel(වල්ය) https://youtu.be/G7Hp9e2GZno

Appendix 02

Sri Lankan English Morphological Processes	Frequency of Usage	Percentage
Borrowings	46	40.48%
Compounds	39	34.32%
Loan Blends	16	14.08%
Semantic change	13	11.44%
Affixation	02	1.76%
Clipping	01	0.88%
Duplication	01	0.88%
Loan Translation	01	0.88%

Impact Of Financial Literacy on Saving Behaviour Among Fresh Graduates in Sri Lanka

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Abstract

This examines some of the factors that determine saving behavior among fresh graduates in Sri Lanka, one of the crucial socio-economic cohorts that are going through the higher education-early career life transition. Although literacy among the fresh graduates are moderate, consistent saving practices remain weak during the transition of education to employment. This study was based on the Theory of Planned Behavior and the Social Learning Theory to analyze three main predictors, including financial self-efficacy, peer influence and financial skills, as a way of understanding how these factors influence the saving behavior. A quantitative approach was adopted, and Data were analyzed using correlation and multiple regression techniques. The results indicated that the three variables have a significant influence on saving behavior, but peer influence has the greatest effect, then financial self-efficacy and financial skills. The research comes up with the conclusion that the combined effect of confidence, financial ability and social factors influences saving intentions among Sri Lankan graduates. It also adds to the literature of behavioral finance in emerging economies and provides policy implications to strengthen youth-based financial literacy and saving programs by policymakers, educators, and financial institutions.

Keywords: *financial self-efficacy, financial skills, graduates, peer influence, saving behavior, Sri Lanka.*

1. Introduction

1.1. Background of The Problem

The term financial literacy refers to the capacity to manage financial resources properly due to the knowledge and understanding of financial theories, including budgeting, saving and management of credit (Lusardi & Mitchell, 2014). Saving behavior is the urge of people to spare part of their income to use in future, which is dependent on the goal-setting level, financial discipline, and socioeconomic factors (Perry & Morris, 2005; Suwatno et al., 2021).

Saving patterns among fresh graduates have drawn global concern. Global Financial Literacy Survey conducted by S&P found that adult financial literacy rates currently stand at only 33 per cent, and the lowest rates belong to adults between the ages of 18 and 34 (Klapper et al., 2015).

The same is the case with Sri Lanka. The Financial Literacy Survey by the Central Bank of Sri Lanka 2021 showed that only 57.9% of Sri Lankan adults were considered to be financially literate, as opposed to 65.9% in 2020 (CBSL, 2021). Literacy levels among the youthful adults, particularly fresh graduates, remain moderate; however, poor application levels, especially in savings, remain poor (Kalupahana, 2025). Cultural norms, peer influences, and shifts in education to work life are inhibitors to disciplined saving (Kumari & Yathusanth, 2025). Moreover, the youth unemployment rate in Sri Lanka increased by 18.2 per cent in 2023 (Department of Census and Statistics, 2024), because this segment of the population does not have stable sources of income to save.

Overall, existing global and local evidence indicates that although awareness of financial concepts is improving, the translation of financial literacy into disciplined saving behavior remains inconsistent among young adults. Therefore, this study aims to investigate how financial literacy affects saving behavior in Sri Lanka with respect to fresh graduates. In Sri Lanka, this gap appears particularly visible among fresh graduates who are transitioning into employment during a period of economic instability. Therefore, the current state of the topic suggests a behavioral gap between knowledge and actual saving practice, highlighting the need for deeper empirical investigation.

1.2. Problem Statement

Fresh graduates entering professional life need to make sound financial decisions, especially about saving. However, in Sri Lanka they typically enter the workplace with very little financial readiness. Although total literacy exceeds 90 per cent and 57.9 per cent of adults are considered financially literate, financial behavior among young adults aged 18–29 remains underdeveloped (CBSL, 2021). This mismatch is especially evident among new graduates who have academic qualifications but lack practical financial skills in budgeting, saving and coping with financial shocks. Recent findings show that most Sri Lankan fresh graduates do not follow a consistent saving strategy. According to You Lead

Sri Lanka and an International Labor Organization (ILO) survey (2023), although 76 per cent of youth are employed or actively seeking employment, only 26 per cent report regular saving behavior.

The inflation crisis and the depreciation of the currency have reduced the purchasing power in Sri Lanka, so many graduates have eased their interest in saving money (World Bank, 2024b). According to the Advocate Institute (2022), only eleven per cent of Sri Lankan youth have access to financial advisory services, and even fewer use formal financial services such as savings accounts or digital budgeting tools. The association between financial literacy and saving behavior of young adults worldwide has been well known. Positive correlation between financial education and regular saving patterns has been confirmed in studies of Indonesia (Setyowati et al., 2023), Ghana (Boadu, 2023) and India (Chawla et al., 2022). Overall, these studies demonstrate that self-efficacy, financial socialization and practical skill development are good predictors of saving behavior among early career professionals. Most local studies either focus on undergraduates instead of fresh graduates or they study looking at saving behavior in general. A few studies have been conducted to investigate financial literacy among the university student population (Kumari and Yathusanth, 2025), but there is a scarcity of empirical data related to the postgraduate early career population.

In addition, there is limited research that has been carried out to establish the role of personal financial skills, peer influence and self-efficacy in the formation of savings behavior during the initial years of employment. This is a critical empirical gap to address, as the financial behaviors during this adulthood could have a lot of ramifications on future financial stability. Therefore, the primary aim of this study is to empirically examine how financial self-efficacy, peer influence, and financial skills influence saving behavior among fresh graduates in Sri Lanka.

1.3. Research Question/s

- What is the influence of financial literacy factors on saving behavior?
- What is the current behavior of savings behavior of fresh graduates?
- Which sub-factors of financial literacy have the greatest impact on saving behavior among the three factors?

1.4. Research Objective/s

- To evaluate the influence of financial literacy factors on saving behavior
- To identify the current behavior of savings behavior of fresh graduates
- To determine the sub-factors of financial literacy that have the greatest impact on saving behavior among the three factors

1.5. Significance of the Study

The saving behavior among fresh graduates in Sri Lanka concerning financial literacy is both an academically and practically important topic. It is an academic point of view through which this study

addresses a significant gap in the literature since it focuses on narrowing down to new graduates in particular, which is yet to be fully addressed in financial behavior literature, since it is a very niche group. The study targets freshly graduated students because the subjects of the study are fresh grads; hence, the study has the capacity to provide new information with which to enlighten the saving decisions of fresh grads who are employed or job-seeking and are engaged in economic uncertainty, social pressure, and limited experience. It also broadens the behavioral finance debate by undertaking a test on the rules of behavioral finance, which includes conceptualizing financial self-efficacy, being inspired by peers, and possessing practical financial skills. In practical, the actionable evidence derived can be utilized to inform policymakers, educators, employers and financial institutions. The predictors may be identified to facilitate the aspects of designing particular financial education programs within the universities, in job training, and in the government systems that handle the youth. The study also aligns well with the national objectives of the government at large, of improving financial inclusion, minimizing informal borrowing and promoting the culture of saving to become investment and development friendly. In the end, this research contributes to the knowledge and behavior deficit in the financial management of fresh graduates by enabling fresh graduates to build a safe financial future and thereby not only better personal economic performance, but also a stronger economy in the country.

2. Literature review

2.1. Theoretical Review

Saving Behavior

Saving behavior is one of the areas of study that has been active in the field of the literature of behavioral economics and personal finances, although it continues to evolve alongside societal and economic settings and population trends. The term saving behavior is usually used to describe the voluntary act of an individual who decides to portion of the present income to utilize at some future date rather than consuming it at a particular time (Keynes, 1936; Browning & Lusardi, 1996). The concept provides an emphasis on the psychological meaning and the financial behavior. To give an example, Perry and Morris (2005) pointed out a possible explanation that saving behavior might be called both a working of the income and an afforded position of individuals as they see personal control of their finances and self-efficacy. Past research exists on youth populations (Sachitra et al., 2019; Kumari & Yathusanth, 2025), but fewer studies focus on newly graduated individuals during the initial phase of paid work. Habits learned in this transition affect lifelong financial wellbeing (Shefrin & Thaler, 1988).

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) incorporates perceived behavioral control since actions are influenced by the feasibility of carrying out the behavior (Ajzen, 1991). TPB states that attitudes

towards the behavior, subjective norms, and perceived behavioral control interactively influence behavioral intentions and actual behavior (Ajzen, 2020).

The TPB has indicate that substantial growth in many areas, including personal financial behavior (Ajzen & Schmidt, 2020). In the saving behavior domain, attitudes, perceived social pressure, and self-efficacy are potent factors that define saving intentions and behaviors (Uddin, 2020; Xiao et al., 2008).

Accordingly, the use of TPB as the theoretical model in this study will imply that the study will realize that saving behavior is characterized by intention and a purposeful behavior and is shaped by personal and external influences (Ajzen, 2020). Therefore, this provides a robust basis to investigate how the scales of financial self-efficacy, peer influence, and financial skills that are closely interconnected with the source of attitudinal, normative, and perceived control factors have been brought about by saving habits among new fresh graduates. Thus, adding the TPB not only assists in developing the conceptual framework of this study, but also forms a more accurate conceptualization of the courses of behaviors along which the concept of financial literacy would affect the behavior of saving in this population grouping of the age (Ajzen, 2020).

Social Learning Theory

Bandura's (1977) Social Learning Theory (SLT) offers us a powerful insight into how individuals learn behaviors, attitudes and norms through the processes of observation, imitation and modelling. According to SLT, people learn not only from their own experiences but also by observing what others have done and what fate befell them (Bandura, 1986). Such vicarious facilitation speaks to the value of positive reinforcement, role models and social influence on discerning personal conduct (Wood & Bandura, 1989). In including SLT in its model, this study recognizes that simply raising the level of financial literacy may prove inadequate without a social context for promoting and bolstering disciplined saving. To inform effective financial education and peer-influence interventions for recent college graduates, therefore, it is important to understand how the social transmission of saving norms occurs. The purpose of this study is to provide more practical implications in terms of how the positive role model and determinant social context can help enhance the relationship between financial knowledge and saving behavior (Mohd et al., 2021).

2.2. Empirical Review

2.2.1. Evaluate The Current Saving Behavior of Fresh Graduates

There is mounting evidence base indicating that young adults in their early post-graduation years, even though they are cognizant of the importance of structured savings behavior, usually fail to engage in structured spending practices.

According to Lusardi and Mitchell (2014), young adults, most often recent graduates, often suffer disparities between financial knowledge and realistic financial saving behavior. Likewise, Owusu et al. (2022) identified that professionals who are at an early stage in their careers in Europe are predisposed to priorities short-term lifestyle costs as well as debt repayments that compromise their capability to save in the long run (Owusu et al., 2022).

Such a pattern is confirmed by other studies devoted to Asian contexts. Mahdzan and Tabiani (2013) highlight that Malaysian fresh graduate, despite moderate levels of financial literacy, display limited saving behavior, largely due to low starting salaries and cultural pressures to support extended family. Zhang et al. (2021), in their more recent work, examined the saving and spending patterns of early-career young adults in China and found that although most of them have a definite intention to save, few of them follow regular saving plans.

Although Sri Lanka-specific data on fresh graduates are scarce, some local studies offer context. Kumari and Yathusanth (2025) found that many final-year university students lack clear saving goals or use of advanced saving tools even before graduation. Entering the labor market, low wages and increasing living costs are immediate barriers to saving (Kalupahana 2025). As per Central Bank of Sri Lanka (2021) the youth financial literacy in moderate, knowledge is not converting to save behavior. Anecdotal evidence from assessments of the youth labor market (Verite, 2023) indicates that underemployment and informal work also reduce graduates' ability to save routinely in the early years postgraduation. More generally, recent empirical research consistently finds that recent college graduates often lack the ability to act on this knowledge and save in a disciplined manner despite being financially literate.

2.2.2. Evaluate the Current Financial Literacy of Fresh Graduates

Recent empirical analysis has revealed that financial literacy of the youths at inception is questionable and low when compared with their abilities to translate it into practical use. Young workers are overconfident regarding their knowledge in contractual matters—just as Lusardi and Mitchell (2014) have long asserted about young adults very early in the work force, for example—but unable to apply it on-the-job even when given new financial discretion, like with college loans. Other studies that have targeted early career professionals also show a similar pattern (Mitchell 2014).

The survey used in Gutsche et al., (2021), including the sample of Italian tertiary graduates who have entered the labor market more recently, managed to show that the respondents were able to define these basic economic concepts or provide the relevant sources of information about inflation and interest rates, budgeting etc., yet they hardly translated them into day-to-day decisions. The research highlighted that new graduates also tend to discount future financial unknowns such as unforeseen costs and debt management, thus exposing their limited operational financial competencies (Gutsche et al.,2021).

The Central Bank of Sri Lanka (2021) pointed out that though financial literacy among youthful adults is increasing, little of the knowledge is put into practice.

Xiao and O'Neill (2018) revealed that financial education programs cannot promote practical financial competence in isolation. Their research established that fresh graduates often lack the behavioral knowledge necessary to budget, manage debt, and employ prudent investments.

Therefore, these empirical insights suggest that the present financial literacy of fresh graduates is marked by a sound knowledge baseline and less behavioral action.

2.2.3. Impact of Financial Literacy Factors on Savings Behavior of Fresh Graduates

Financial Self-Efficacy

Financial self-efficacy is an important psychological measure in the explanation of why knowledgeable individuals have or have not translated judgments towards good saving behaviors. According to Bandura (1997), self-efficacy is the belief that an individual has in their success in organizing and implementing actions necessary to handle arising situations.

Empirical research has found numerous times that self-efficacy is a crucial factor in determining saving behavior. Xiao and O'Neill (2018) emphasized that post-graduates with stronger financial self-efficacy were more prepared and familiar with systematic planning and saving, whereas those with low financial self-efficacy developed a tendency toward procrastination.

Farrell et al. (2016) concluded that there is a high positive correlation between self-efficacy and practical saving behavior. Goyal and Kumar (2020) discovered that people with strong financial self-efficacy were much more likely to sustain emergency savings and long-term deposits.

In local research, Kumari and Yathusanth (2025) noted that soon-to-be fresh graduates were experiencing a feeling of being ill-equipped to handle their finances.

These empirical perspectives portray that financial self-efficacy is a critical engine that equips fresh graduates with the capacity to convert what they learn into regular saving behavior.

Peer Influence

Those empirical intuitions indicate that peer effect could play the role of either a barrier or enabler towards savings behavior of fresh graduates. There are a few positive financial behaviors with motivating factors that peers may encourage through common goals or accountability, but there are also resources for bad spending habits to mess up your saving. The truth is this relationship in vital if we are to design financial literacy programs that will account for the impact of social networks. As such, peer financial education or group saving scheme could be important in translating financial education to sustained saving behavior among fresh graduates.

Financial Skills

In the Asian context studied the effects of stated money management among Malaysian young adults and discovered that the budgeting skills, especially, were a decisive determinant of a savings grade. They also indicated that young graduates who constantly checked their earnings and spending habits were in a better position to know how much extra money they had to save and could save on overspending. This attests to the fact that financial abilities fill the chasm between knowledge and action (Farrell et al., (2016).

A recent paper by Yakoboski et al., (2022) has investigated financial skill use among early-career millennials worldwide and found that people with greater practical skills were more likely to have emergency savings, invest periodically, and not be in unnecessary debt. Interestingly, they also imply in their research that digital financial tools have the potential to sharpen these skills by making budgeting and expense tracking more user-friendly, but remain unexploited by young graduates (Yakoboski et al., 2022).

The empirical research that studies the direct financial skills of fresh graduates is scarce in the Sri Lankan context. Kalupahana (2025), however, documents that most Sri Lankan graduates who go to work and find jobs do not have the relevant experience to start their finances; hence, the saving pattern is not regular. Practical financial skills should thus be one of the main thrusts of an attempt to improve the saving behavior of fresh graduates.

2.3. Research Gap

The relationship between saving behavior and financial literacy has been explored before, and a considerable gap in knowledge exists that warrants this research study. Theoretically, a substantial body of research regards financial literacy as a general phenomenon and does not place an emphasis on the investigation of interaction between separate factors such as financial self-efficacy, peer influence and practical financial skills in terms of robust behavior frameworks (Lusardi & Mitchell, 2014). The current study attempts to fill this gap by merging the concepts of the Behavioral Life-Cycle Hypothesis, Theory of Planned Behavior, and Social Learning Theory, thus presenting a multidimensional aspect under which these determinants can be carefully analyzed within the context of saving behavior of fresh graduates.

Empirically, the current evidence is mostly focused on undergraduates or general youth groups, and there is little understanding of fresh graduates who have just left education and entered the workforce and are experiencing different financial constraints (Kalupahana, 2025). This study is relevant to fill this knowledge gap, through producing original evidence relevant to the Sri Lankan context, on how factors related to financial literacy influence the decision to save by young graduates during an important period in their career, i.e. within one to three years after graduation.

In practice, although youth financial literacy efforts continue to encounter positive results, little to no evidence has been implemented on how initial knowledge may be translated into long-term saving behavior among new graduates (Central Bank of Sri Lanka, 2021). The present study directly fills in the gap as it defines which aspects of financial literacy show the best predictors of saving performance. As such, the study provides clarification to policymakers, educators, and employers to design their intervention as well, since the interventions should aim at building practical capabilities, confidence, and peer supportive environments. In this way, it plays a role in enhancing both the academic debate and the creation of effective financial education strategies that positively impact the long-term financial well-being of young professionals.

3. Methodology

The proposed research uses the Research Onion model by Saunders et al. (2019) as a guiding framework. A positivist philosophy was adopted to establish observable and measurable links and also which allowing objective hypothesis testing and generalization of findings. A deductive approach was used, based on existing theories. A survey strategy was chosen to collect standardized measurable data from fresh graduates through organized questionnaires for hypothesis testing and statistical analysis. A quantitative method was adopted to obtain numerical, statistical analysis. The study used a cross-sectional time horizon were collecting data at one point to obtain a picture of current financial literacy and saving behaviors.
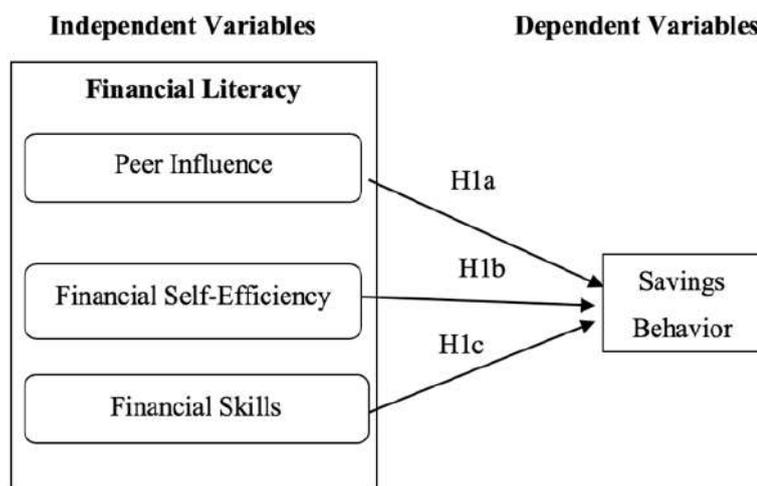
3.1. Conceptual Diagram

Figure 1: Conceptual Framework

Hypotheses

H1a: There is a significant impact of Peer Influence on Saving Behavior among Fresh Graduates

H1b: There is a significant impact of Financial Self-Efficiency on Saving Behavior among Fresh Graduates.

H1c: There is a significant impact of Financial Skill on Saving Behavior among Fresh Graduates.

3.2. Sample Collection

A sample of 380 people was determined using Krejcie and Morgan's (1970) formula for determining the sample size, with a population of 35,000 being the estimated number of graduates. The stratified random sampling also enabled equal representation of various disciplines of business, science, engineering and arts. A structured online questionnaire was used to collect the data by posting the questionnaire in university networks and LinkedIn graduate forums etc which measured using 5 point Likert scale.

4. Data analysis & results

4.1. Reliability Analysis

Table 1: Summary of Reliability Analysis & Validity Analysis

Variable	Cronbach's Alpha	KMO	Bartlett's Chi-Square	df	Sig.
Financial Self-Efficacy	0.7 < 0.843	0.781	1156.129	10	.000
Peer Influence	0.7 < 0.893	0.836	2364.847	10	.000
Financial Skills	0.7 < 0.816	0.755	1248.975	10	.000
Saving Behavior	0.7 < 0.930	0.827	1847.333	10	.000

The acceptable reliability standards were also met individually per variable. All four scales, Financial Self-Efficiency, Peer Influence, Financial Skills and Savings Behavior obtained values of Cronbach's Alpha exceeding 0.7, indicating all of them had good levels of internal consistency. These outcomes report that the will of all the objects of each construct is measuring their ideas precisely, which provides additional arguments against the reliability and stability of the results of this study.

All four variables achieved KMO values above the 0.70 threshold and showed statistically significant Bartlett's tests (p < 0.001). This confirms strong sampling adequacy and suitability for factor analysis, ensuring that the dataset is valid for conducting multivariate statistical procedures.

4.2. Correlation Analysis

4.2.1. Financial Self Efficiency & Saving Behavior

Table 2: Correlation - Financial Self-Efficacy

		Savings Behavior	Financial Self-Efficiency
Savings Behavior	Pearson Correlation	1	.972**
	Sig. (2-tailed)		.000
	N	380	380
Financial Self-Efficiency	Pearson Correlation	.972**	1
	Sig. (2-tailed)	.000	
	N	380	380
**. Correlation is significant at the 0.01 level (2-tailed).			

This correlation analysis demonstrates that the relationship between Financial Self-Efficiency and Savings Behavior is a strong positive relationship (r = 0.972, p< 0.01). Thus, more confident persons concerning their financial arrangement capacity are the most probable to sustain regular and restrained saving behavior.

4.2.2. Peer Influence & Saving Behavior

Table 3: Correlation – Peer Influence

		Savings Behavior	Peer Influence
Savings Behavior	Pearson Correlation	1	.962**
	Sig. (2-tailed)		.000
	N	380	380
Peer Influence	Pearson Correlation	.962**	1
	Sig. (2-tailed)	.000	
	N	380	380
**. Correlation is significant at the 0.01 level (2-tailed).			

The findings indicate that there is a strong positive relationship between Peer Influence and Savings Behavior (r = 0.962, p < 0.01). The above result is highly correlated, showing that social life, communal financial customs, and peer norms highly influence the saving behavior of individuals.

4.2.3. Financial Skills & Saving Behavior

Table 4: Correlation – Financial Skills

		Savings Behavior	Financial Skills
Savings Behavior	Pearson Correlation	1	.892**
	Sig. (2-tailed)		.000
	N	380	380
Financial Skills	Pearson Correlation	.892**	1
	Sig. (2-tailed)	.000	
	N	380	380
**. Correlation is significant at the 0.01 level (2-tailed).			

The result in the correlation analysis shows that there is a strong positive association between the Financial Skills and Savings Behavior (r = 0.892, p < 0.01). This illustrates that the enhancement of the practical financial management skills, including budgeting, expense monitoring, and goal setting, positively correlates to more effective saving habits of fresh graduates.

4.3. Regression Analysis

4.3.1. Model Summary

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.986a	.973	.973	.08446
a. Predictors: (Constant), Financial Skills, Financial Self-Efficiency, Peer Influence				

The model summary represents a positive correlation (R = 0.986) between predictors of Financial Self-Efficiency, Peer Influence, and Financial Skills and savings Behavior. The R Square value of 0.973 means that the three predictors explain almost 97.3 per cent of the variance in the saving behavior, which proves to be incredible explanatory power, and which confirm that reliability and good sampling adequacy

4.3.2.ANOVA Table

Table 6: ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.766	3	31.922	4474.763	.000b
	Residual	2.682	376	.007		
	Total	98.449	379			

a. Dependent Variable: Savings Behavior

b. Predictors: (Constant), Financial Skills, Financial Self-Efficiency, Peer Influence

The regression model shows a significant effect in predicting the Savings Behaviour (F = 4474.763, p < 0.001). Regression sum of squares (95.766) is significantly greater than the residual sum of squares (2.682), indicating that predictors Financial Self-Efficiency, Peer Influence and Financial Skills explain most of the variation in savings behaviour. The fact that the residual mean square is very low (0.007) also makes the model strongly predictive, as the overall conclusions can only be that these variables will have a significant statistically significant influence on savings behaviour among fresh graduates.

4.3.3. Coefficient Table

Table 7: Coefficient Table

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.430	.047		-9.217	.000
	Financial Self-Efficiency	.726	.029	.607	25.094	.000
	Peer Influence	.655	.034	.613	19.132	.000
	Financial Skills	.569	.030	.532	8.927	.000

a. Dependent Variable: Savings Behavior

Financial Self-Efficiency - The coefficient table suggests that the impact of Financial Self-Efficiency on Savings Behavior is positive, strong and significant (B = 0.726, β = 0.607, t = 25.094, p < 0.001). This suggests that a rise in financial self-efficacy directly contributes to better saving habits for new graduates. With a high beta value, it is a key determinant of saving behavior in the model. Hence the null hypothesis (H1a$_0$) is rejected, and the alternative hypothesis (H1a) accepted verifying the acceptance of Financial Self-Efficacy having significant effect on saving behavior.

As such, the first hypothesis of H1: There is a significant effect of Financial Literacy on Saving behavior among Fresh Graduates is supported.

Peer Influence - The findings show that Peer Influence has a significant and positive impact on Savings Behavior (B = 0.655, β = 0.613, t = 19.132, p < 0.001). This indicates that good peer norms and collaborative financial behaviors are highly related to the better savings habits of young graduates. The relatively high beta indicates that it is indeed one of the most important predictors of development in this model. Thus, the null hypothesis (H2b₀) is rejected and the alternative Hypothesis (H2b) accepted that Peer Influence does significantly influence saving behavior.

H2b: There is a significant effect of Peer Influence on Saving Behavior among Fresh Graduates Thus, the second hypotheses of H2b have been supported

Financial Skills - Results show that Financial Skills positively predicts Savings Behavior (B = 0.569, β = 0.532, t = 8.927, p < 0.001). This implies that actual skills like budgeting, tracking of expenses and goal setting are to be considered in developing disciplined saving behavior among new graduates. It is still an important predictor in the model, although its beta weight is not as large as for other predictors. Thus, null hypothesis (H1c0) is rejected, and alternative hypothesis (H1c) is accepted with the conclusion that there is a significant association in between Financial Skills and saving behavior.

5. Discussion

5.1. Financial Self-Efficacy and Savings Behavior

The importance of financial self-efficacy is highlighted by extensive empirical literature in defining saving behavior amongst young adults, especially those moving out of academia to enter the workforce. This is viewed in terms of self-efficacy as postulated by Bandura (1997) as the confidence to act to accomplish what is deemed to be desirable. In economic terms, this means that this person feels confident that he/she has the capability to budget, save, invest, and prepare against eventualities in finances. Xiao and O'Neill (2018) present evidence that individuals with high financial self-efficacy close the gap between financial knowledge and behavior in the sense that they can act or convert their knowledge about theoretical concepts into consistent savings behavior. According to their work, there also exists a high possibility of procrastination or inconsistent saving behavior in the face of low self-efficacy, regardless of the level of knowledge.

Additional empirical data have been used to back up this view. In the Australian context, Farrell et al. (2016) confirmed that financial self-efficacy and not formal financial literacy is a strong predictor of actual saving behavior in early-career professionals. Likewise, Goyal and Kumar (2020) identified that in India, people with high self-efficacy had an increased chance of holding emergency and long-term

deposits in times of financial stress. In Sri Lanka, there is little study; however, Kumari and Yathusanth (2025) noted that self-doubt and lack of financial confidence were obstacles to the transition of the literacy capability to the discipline of saving money.

The current study's findings strongly align with these prior results. Correlation analysis revealed a very strong positive relationship between financial self-efficacy and savings behavior (r = 0.972, p < 0.01). Regression analysis results also indicated that FSE is the strongest predictor of saving behavior (B = 0.726, β = 0.607, t = 25.094, p < 0.001). This implies that graduates with greater confidence in controlling their finances are much more likely to save regularly, than those without such confidence.

Therefore, the current study supports the existing theoretical position that financial self-efficacy is a most valuable motivator for saving. In the context of this study, such interventions could serve as a direct lever for fostering sustainable financial habits during the graduates' career transition stage.

5.2. Peer Influence and Savings Behavior

The peer influence is commonly accepted as one of the socio-psychological predictors of financial behavior, and it has many implications on early adulthood saving behavior. Malhotra & Kumar Baag (2023) showed that peers' norms significantly influenced attitudes to saving and spending among the Indian graduates, and most graduates were encouraged to indulge in a lifestyle consumption habit at the cost of organized savings.

Goerke & Neugart (2017) demonstrated that peer-pressured overt consumption in Europe decreased the probability of sustainable saving when people tried to imitate conspicuous consumption patterns even though they were aware of the advantages of thrift. Alshebami & Aldhyani (2022) discovered that peers were a strong source of financial socialization in Malaysia and could impact negative and positive behavior around money management. Mahdzan et al., (2019) also noted that the social need to belong through discretionary spending usually compromised the savings intentions of young professionals in emerging economies. In Sri Lanka, Kalupahana (2025) observed that the younger generation of new entrants in an urban job market apes the behavior of those who work in urban environments in terms of consumption and is more interested in instant satisfaction rather than financial sustainability.

The current study's findings are consistent with these observations. Correlation analysis identified a very strong positive relationship between peer influence and saving behavior (r = 0.962, p < 0.01). The result indicated that peer influence is a significant predictor of saving behavior (B = 0.655, β = 0.613, t = 19.132, p < 0.001) with beta value slightly greater than financial self-efficacy.

The strong influence if peer norms reinforce the relevance of social learning theory, demonstrating that financial behavior are socially transmitted and shaped through observation and social comparison. Through exploitation of positive peer influence in financial education messages, policymakers and other

stakeholders could enhance the effectiveness of financial literacy initiatives, ensuring that social influence becomes a permanent spur to savings for young graduates.

5.3. Financial Skills and Savings Behavior

According to the CFPB (2018), these are making financial decisions, setting financial goals, budgeting, monitoring spending, and comparing financial products. According to Xiao and O'Neill (2018), young adults who had a working knowledge of personal finances, including how to budget and track expenses, were much more likely to stay with structured savings than those who only had theoretical knowledge.

Farrell, Fry, and Risse (2016) found that early-career professionals who had budgeting and expense monitoring skills showed superior saving intentions and behaviors compared with colleagues lacking those skills, at all levels of financial literacy. Likewise, in a study by Mahdzan et al. (2019), it was indicated in Malaysia that the regularity and frequency of monitoring income and expenses are directly related to the savings amount since people could better recognize and distribute any excess funds. Yakoboski et al. (2022) translated this evidence to other countries of different income levels, showing that the use of financial skills relates to emergency savings, regular investments, and debt avoidance. In Sri Lanka, Kalupahana (2025) has reported a gap in skills among the graduates joining the workforce, where a lack of practical exposure to financial matters frequently resulted in inconsistency in savings.

The findings of the present study support those previous results. Positive significant correlation was also found between financial skills and savings behavior ($r = 0.892$, $p < 0.01$). These findings were also supported by those of the regression model ($B = 0.569$, $\beta = 0.532$, $t = 8.927$, $p < .001$). Although the beta value is lower than for financial self-efficacy and peer influence, it indicates a substantial contribution to saving behavior. Financial skills therefore act as the operational mechanism through which knowledge is translated into disciplined behavior, strengthening the behavioral finance perspective adopted in this study.

6. Conclusion

This study aimed to examine the impact of financial literacy on saving behavior among fresh graduates in Sri Lanka, with specific emphasis on three sub-dimensions: financial self-efficacy, peer influence, and financial skills. The findings of this study provide clear empirical evidence that financial literacy significantly influences saving behavior among fresh graduates. Correlation and multiple regression analyses confirmed that all three independent variables financial self-efficacy, peer influence, and financial skills have statistically significant positive effects on saving behavior. The regression results indicated that the model explains 97.3% of the variance in saving behavior, demonstrating a very strong

explanatory power. Among the predictors, peer influence emerged as the strongest determinant, followed by financial self-efficacy and financial skills. Therefore, all three hypotheses (H1, H2, and H3) were supported. In directly answering the research questions, the study confirms that financial literacy has a substantial and meaningful impact on saving behavior. Furthermore, the findings suggest that the current saving behavior of fresh graduates is strongly shaped by both internal confidence and external social pressures, rather than by knowledge alone. The significant role of financial self-efficacy supports the concept of perceived behavioral control, demonstrating that confidence in managing finances enhances disciplined saving practices. At the same time, the dominant influence of peer dynamics confirms the relevance of social learning mechanisms, indicating that financial behavior is socially embedded and influenced by normative expectations and group behavior. Financial skills function as the operational bridge between knowledge and action, reinforcing the importance of practical capability in translating financial understanding into consistent saving behavior. From a practical perspective, the study highlights that improving saving behavior among fresh graduates requires more than theoretical financial education. In a context characterized by economic uncertainty, inflationary pressure, and moderate financial inclusion, policy interventions should focus on strengthening self-efficacy, promoting skill-based financial training, and leveraging peer-led financial initiatives. Universities, employers, and financial institutions can play a critical role by incorporating structured financial skill development programs and social-based savings mechanisms tailored to young professionals. However, self-reported data my introduced response bias which should considered when interpreting the finding.

7. Recommendations

Based on findings following recommendations are proposed to enhance saving behavior among fresh graduates in Sri Lanka.

7.1. Financial Self-Efficacy

These findings highlight self-efficacy as a critical psychological determinant of disciplined saving behavior among fresh graduates as it informs the development of savings behavior. In the light of these results, it is proposed to universities and industry the inclusion of devices in self-assurance building, as part of a financial education program. Rather than being focused on facts, the interventions should focus on presenting sufficient examples so that graduates are given the chance to see how financial strategies play out in actual practice in the world. For instance, budget under constraints simulations, investment imitation tasks and digital saving tasks could be employed to improve individuals' confidence in their ability to take financially sound decisions. Policymakers could also promote the

growth of community-based workshops for graduating workers that provide financial coaching and peer support one-on-one. Employers can also be part of the solution by offering work-based financial wellness programs that include expert-guided advice supplemented with automated savings tactics, which are proven to increase worker confidence in making financial decisions (Kim et al., 2019). Digital technology presents further opportunities. FinTech apps designed with young professionals in mind may also incorporate elements like savings goals breakdowns, reminders that go out automatically and follow-up dashboards to help form the habit with visual representation of what an individual can actually do.

7.2. Peer Influence

This highlights the strong influence of social networks and peer norms in influencing financial behavior. As it is well known that the young adults tend to base their financial behaviors on the behaviors of their friends or their workmates, it is crucial that interventions build on the influence rather than undermine it. Among the recommendations, it has been noted that universities should build organized peer-mentorship programs through which financially responsible graduates can train peers on the adoption of saving habits. These programs do not only offer social accountability, but also, they offer an environment where saving becomes a normal behavior. At the community level, the policymakers are supposed to facilitate the development of a graduate savings cooperative or a group savings scheme. The results of developing nations indicate that these group-level strategies have the potential to enhance the level of participation and sustainability of saving behavior dramatically (Karlan et al., 2017).

Peer influence is also another opportunity that employers can exploit because of workplace programs. Peer pressure can be used positively through introducing group saving challenges, team-based savings goals, matched contributions, or even recognizing employees who meet a milestone. These programs may motivate the employees to behave in a way that is reinforced socially. Peer influence can also be enhanced with the help of digital solutions. Financial institutions might also create mobile features that will enable graduates to create what we might call a savings circle, monitor the progress of a group, and subsequently celebrate group accomplishments. Thus, peer influence does not play a marginally important role but is one of the primary factors defining saving behavior. Peer pressure can be turned into a positive force of financial stability among the Sri Lankan graduates through harnessing this dynamic using organized peer programs, group saving models, and digital social platforms.

7.3. Financial Skills

Clearly, from these results, controlling and monitoring of expenses as well as the planning of savings targets should not be undervalued as a precondition for converting saving intentions into routine behavior. To enhance competencies in these skills, it has been suggested that universities will include

compulsory financial literacy and skill-based modules within undergraduate courses, concentrating on the practical utility of tools, from digital budgeting apps to spreadsheet-based financial planning and expense tracking activities. Employers can also make a big difference by integrating financial skills training into new employee inductions for graduates, including seminars on how to deal with salaries, set up emergency funds and learn about retirement planning. Banks would design products that educate in addition to providing useful tools and information. For instance, bank-sponsored mobile banking apps with templates for budgeting, savings calculators, and educational tutorials. Policymakers should promote standardized and skills-based national financial education policies that include introducing financial skill development into the curriculum at secondary and higher educational levels to build lifelong competences.

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The Effect of Knowledge Sharing on Employee Performance: Evidence from Sri Lanka's Manufacturing Sector

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Abstract

In the recent past, knowledge management has become a critical topic in organizational psychology, as effectively sharing intellectual capital has become a major challenge for firms seeking a competitive edge. Even though it is frequently discussed in general terms, many studies in this area have not explored the specific interplay of organizational culture and technology within the manufacturing sector of developing economies. The current study goes beyond general management theory by investigating the potential impact of four key motivational factors trust, communication, information systems, and reward mechanisms on "employee job performance." Data were collected from 377 manufacturing employees across Sri Lanka's Western Province regarding their knowledge-sharing behaviors and their subsequent impact on productivity and decision-making. The Correlation and regression analysis confirmed that all four motivational factors significantly and positively influence individual job performance. Specifically, the findings suggest that trust among coworkers and robust information systems serve as the most critical antecedents to effective knowledge exchange. The results of this study also highlight that a structured reward scheme is essential for sustaining long-term knowledge-sharing behaviors in a high-demand manufacturing environment. Practical implications of these findings for human resource policies are discussed, providing actionable guidance for managers to enhance workforce effectiveness through targeted cultural and technological interventions.

Keywords*: Knowledge sharing, Employee Performance, Manufacturing industry*

1. Introduction

In the modern business environment, organization operates in very dynamic and knowledge-intensive environments. To maintain a competitive edge, they must adequately manage and use the available knowledge resources. In these contexts, knowledge management has become a matter of greatest strategic (Chen et al., 2007) competitive advantage not guaranteed by merely hiring people with superior knowledge and skills as highlighted by (Brown et al., 2009), but knowledge sharing and knowledge management among employees create sustainable competitive advantage (Mortensen et al., 2001). by creating culture and an atmosphere where people are inspired to exchange knowledge, they become better able to share the knowledge that they bear within the organization but can also open the organization to valuable knowledge to the organization.

Previous studies show that knowledge sharing is a central process of knowledge management (Brown et al., 1995; Nielsen, 2006) which is positively linked with the organization performance (Arthur et al., 2005). Knowledge sharing allows employees to increase their productivity, thus adding to the overall organizational outcomes. (Yeboah, 2023) note that employee effectiveness is directly determined by the transfer of knowledge between those individuals who have access to it and those who need it. However, a considerable number of employees are still reluctant to receive knowledge though co-employees most of the time because of the perceived aspects of difficulty or discomfort. Therefore, it is important to pay attention to knowledge sharing and create an organization that must develop an open culture and reward. Incentive scheme that would encourage the employees to contribute to sharing knowledge out of a willing and good attitude (Davenport, T.H et al.,1998).

1.1. Background of the study and problem statement

The role of employee performance has been subject to a lot of research papers and arguments have been made declaring that employee performance has come into play in the realization of the organization's success in the current dynamic business environment. As (Striteska et al., 2020) state, the top management of any organization has the major role to monitor the performance management procedures in the business. As indicated by (Raluca Vosloban, 2012) employee performance and the growth of the organization are positively related. That is why organizations should remain particularly concerned with the performance of employees to gain a larger market share in such competitive environment.

Sri Lanka's economy relies heavily on the manufacturing sector as a major source of growth and employment. It provides many job opportunities and has been experiencing rapid growth in Sri Lanka since the economy was open in 1977. Industries such as textiles, garments, food processing and rubber products serve as a major contributor to Sri Lanka's exports and employment. However, the manufacturing industry in Sri Lanka has challenges. On the other hand, there is an availability of young

and educated workforce, availability of key shipping routes and increasing numbers of factories. There are also issues such as the increase in costs, intense competition in the fields of other countries, and keeping up with modern technology. Retention of quality workers and ensuring there is no loss of important work-related knowledge among employees leaving their job is one of the greatest challenges. Due to this, knowledge management has become significant in the manufacturing industry.

Many studies have examined how knowledge sharing affects employee performance in service and IT industries, where work involves flexible, creative tasks and sharing personal (tacit) knowledge through teamwork (Wang et al., 2010) However, these results do not apply directly to Sri Lanka's manufacturing sector because of key differences, such as machine-based repetitive jobs instead of idea-focused service work (Nonaka et al., 1996) use of written-down (explicit) knowledge due to strict rules and Lean methods, unlike IT's informal sharing top-down communication on shop floors that limits open talk, compared to flat teams in services (Cummings, 2004) reliance on machines for efficiency rather than customer dealings (Davenport, T.H et al.,1998) and strong pressures from safety, quality checks, and production targets that restrict sharing (Linda Argote, 2013) These gaps mean existing theories miss manufacturing realities like rigid processes and hierarchies and there is little research on Sri Lanka's factories where trust issues slow knowledge flow so specific studies are needed.

According to recent studies that have been carried all over the world informal and formal knowledge sharing plays a significant role in greater task performance, innovation, and worker innovativeness in manufacturing firms (AlMulhim, 2023; Z. Wang & Wang, 2012). Organizational culture, aspects like trust among coworkers, communication between staff, information system in use, and reward systems play a huge role in encouraging knowledge sharing among employees (Meher et al., 2022) But these conclusions are quite context specific and might not be directly applicable to organizational culture resource, and technological capacities of the developing economies such as Sri Lanka. Common barriers to effective knowledge sharing continue to exist within organization still. Which include job insecurity, trust and poor mechanisms of knowledge capture and sharing. Without responding to them, manufacturing organizations are unlikely to capitalize on the potential of their workforce and because of that become less competitive and weak in terms of performance.

Therefore, a research gap exists in understanding how organizational culture, communication, reward systems, and technological support directly drive the knowledge-sharing process which encompasses both the intrinsic willingness of employees to contribute and the actual exchange of information and how this contributes to employee performance in Sri Lanka's manufacturing industry. This paper aims to fill this gap by examining these enablers as direct predictors of performance, recognizing that 'knowledge sharing' is not merely a technical transfer but a behavioral outcome rooted in an employee's readiness to participate. By analyzing these factors as direct drivers, the study provides a clear link between organizational inputs and productivity outputs. The results will be useful in understanding best

practices for knowledge management and in promoting top performance within the manufacturing sector of the country.

1.2. Research Question/s

The preceding discussion underscores that in the manufacturing sector; employee performance is not merely a product of individual skill but is significantly shaped by organizational and technological factors that facilitate the exchange of intellectual capital. These factors trust, communication, information systems, and rewards serve as the essential drivers of knowledge-sharing practices, as they directly influence the environment required for employees to engage in productive knowledge exchange. Guided by this background and the recognition that effective knowledge sharing is rooted in these motivational enablers, the study is designed to address the following questions:

Main research question

- Do knowledge-sharing motivational factors significantly enhance employees' willingness to share knowledge and consequently improve employee performance in the manufacturing industry of Sri Lanka?

Specific research questions

- Does trust among coworkers in knowledge sharing have a significant positive impact on employee performance in the manufacturing industry?

- Does communication/interaction between staff in knowledge sharing have a significant positive impact on employee performance in the manufacturing industry?

- Does the use of knowledge sharing information systems/technology have a significant positive impact on employee performance in the manufacturing industry?

- Does a reward system designed to promote knowledge sharing have a significant positive impact on employee performance in the manufacturing industry?

1.3. Research Objective/s

The primary objective of this study is by identifying the role of (trust, communication, information system, and rewards system) in knowledge sharing, and to provide practical insights into how organizations can strategically use knowledge-sharing practices to enhance productivity and performance outcomes.

Main research objectives

To examine whether knowledge-sharing motivational factors significantly enhance employees' willingness to share knowledge and thereby improve employee performance in the manufacturing industry of Sri Lanka.

Specific research objectives

- To examine whether trust among coworkers in knowledge sharing has a significant positive impact on employee performance in the manufacturing industry.

- To examine whether communication (interaction between staff) in knowledge sharing has a significant positive impact on employee performance in the manufacturing industry.

- To examine whether knowledge-sharing information systems/technology has a significant positive impact on employee performance in the manufacturing industry.

- To examine whether a reward system designed to promote knowledge sharing has a significant positive impact on employee performance in the manufacturing industry

1.4. Significance of the study

This study is important for several reasons. First, it adds new insight into how knowledge sharing affects employee performance, especially in the manufacturing sector, a less explored area in academic studies compared to other industries. By identifying the motivational factors that encourage knowledge sharing among employees. The results will assist firms in establishing policies that encourage innovation, teamwork and continuous learning by identifying the key factors that motivate employees to engage in knowledge sharing practices. This research provides practical guidance for managers and policymakers by demonstrating how key variables such as trust, communication, technology, and reward systems encourage employees to engage in knowledge-sharing practices and how these practices impact employees' job performance. As a result, it can enhance workforce efficiency and organizational productivity as well. The paper also emphasizes the role of human and technological factors in sustaining competitive advantage as an indicator of the evidence-based recommendations for performance improvement initiatives. In addition, this research also provides foundation for other researchers who wish to investigate knowledge sharing and employee performance in the manufacturing sector or similar industries. It can also be used by students and researchers who wish to conduct further research in related fields. Finally, the findings from this research can be used as a strategic tool for organizations and it helps employees by showing them how sharing knowledge can help them to grow personally, do their jobs better and give them greater career opportunities which will make the workforce more dynamic and future ready.

1.5. Scop of the study

This study has several limitations that need to be addressed and must be acknowledged as follows: This research was limited to the companies withing the manufacturing sector. It has been focused only on selected aspects of organizational culture such as trust among coworkers, communication/interaction between staff, information systems, and reward systems, while other significant factors like leadership style, organizational structure, social capital, and group-based norms, were not examined. In addition, the study employed only a quantitative approach and limited to the one point of data collection through a cross-sectional survey design. It will rely on self-reported data, which may cause people to give answers just to look good instead of true and fair. Those answers make it hard to know what really caused the result. The way this can be improved in future research is through longitudinal methods and qualitative approaches, such as in-depth interviews or observations, to give a proper understanding of the factors involved.

Furthermore, the findings' generalizability was limited because the sample was selected from a particular organizational context (the manufacturing sector). This may not be always the case because organizations of diverse structures (like highly political governmental organizations) may use different patterns of knowledge sharing behavior and performance outcomes. Also, the study mainly examined knowledge sharing from the viewpoint of knowledge providers, ignoring the part played by knowledge receivers, whose actions and attitudes may also have a big impact on performance outcomes. These limitations present chances for future researchers to build a more comprehensive and better understanding of knowledge sharing within organizational contexts and how it could impact employee performance and organizational as a whole.

2. Literature Review

The literature review presents the theoretical framework and empirical foundations pertaining to knowledge sharing and its influence on employee performance within organizations. It aims to explore the components related to knowledge sharing practices, identify affecting factors, and analyze their impact on employee outcomes to offer insights into how knowledge management shapes performance.

2.1. Theoretical related literature review

Knowledge is many things to many people. Knowledge is not simply understood, managed or quantified. Knowledge is more than just information. Additionally, it contains experiences, skills and insights (Huysman et al., 2002) Knowledge management (KM) has become one of the key organizational capabilities of the modern business landscape, especially in knowledge-intensive sectors like

manufacturing. (Ponelis et al., 2014) give a detailed description of knowledge management as "the identification, optimization, and active management of intellectual assets, either in the form of explicit knowledge held in artifacts or as tacit knowledge possessed by individuals or communities." This definition emphasizes two sides of knowledge assets and highlights the importance of managing both explicit and tactic knowledge within organization. This distinction becomes particularly relevant in manufacturing industry where both technical specifications (explicit) and operational know-how (tacit) are pre-requisites to organizational performance.

The resource-based view of the firm provides a theoretical foundation for understanding knowledge as an organizational asset. According to (Bollinger et al., 2001) this view makes knowledge a valuable, rare and difficult to imitate resource and that can help to sustain the competitive advantage. Based on empirical studies (Wang et al., 2012) prove that knowledge is a strategic resource that affects organizational performance to a considerable extent because of its effects on the development of intellectual capital. Their analysis shows that organizations that manage knowledge as a strategic asset have superior performance, both in operational and financial aspects. Manufacturing organizations gained advantage from this view because their competitiveness can largely be based on such proprietary processes, technical experience and operational knowledge that cannot be easily replicated by their competitors.

Sharing knowledge is the essence of knowledge management, the process according to which individual knowledge is transformed into organizational knowledge. Empirical study by (Almashari et al., 2002) indicated that knowledge sharing has a great influence on the organizational performance through the creation, transfer, and utilization of knowledge across the organizational boundaries. Their results prove that organizations that possess positive knowledge sharing practices have higher innovation, decision-making processes, and operational efficiency. As a result, Knowledge sharing can have an effect organization's long-term performance and competitiveness (Armaghan & Renaud, 2017). The significance of knowledge sharing in the manufacturing industry could not be overestimated. To sustain quality, efficiency and innovation, manufacturing organizations are highly dependent on explicit technical knowledge as well as tacit operational experience.

2.2. Factors affecting knowledge sharing behavior

Knowledge sharing behavior is shaped by a range of factors operating at individual, team, and organizational levels. Researchers have identified organizational cultural factors such as trust, communication, Information system and reward system, as significant drivers that can either promote or hinder effective knowledge sharing within various contexts.

1.1.1 *Trust among coworkers*

There is no universally accepted definition for trust, but many researchers have emphasized the importance of trust. (Lewis et al., 1985) indicated that trust is a feeling of confidence and security in the caring responses, while explained that belief is an expectation held by an individual or group of words, promises, or verbal or written statements of another individual or group. Trust is a basic factor in knowledge sharing. (Raza et al., 2018)If individuals sharing their own knowledge fail to receive the benefits they expect, they probably won't share it. In many studies trusts is considered as a key variable for knowledge sharing, and knowledge sharing can occur when people have trust in each other (Wasko et al., 2005). Basically, knowledge sharing will be initiated in an organization only with individuals who have trust between each other. Human factors such as trust are a major component to obtaining effective knowledge and are an attribute to the enhancement of performance.

1.1.2   *Communication/Interaction between staff*

Communication refers to face-to-face interactions in common languages and human interactions through oral conversations and the use of body language while communicating (Al-Alawi et al., 2007).Some previous studies suggest that communication plays an important role in knowledge sharing, as it helps build trust in different types of inter-organizational relationships (Chen et al., 2007). In their empirical study of the South Korean public employees (Kang et al., 2008) established that the openness in communication positively affects employees to share knowledge and this would enhance individual work performance. Communication infrastructure and patterns define the flow of knowledge in organizations. Explicit knowledge is shared through formal communication channels, including meetings, reports, and structured information systems. However, it is usually more effective that informal communication networks can share tacit knowledge and provide social relationships that facilitate continuous knowledge sharing. Manufacturing sector usually has formal and informal communication systems in place to exchange technical knowledge, operating processes, and improvement ideas.

1.1.3   *Existence of knowledge sharing Information System*

Information systems are very important for an organization because they can connect people, data, and processes together to support day-to-day work while solving problems and making informed decisions (Whitten et al., 2001). By using a knowledge-sharing information system, best practices can be standardized and ensuring everyone uses the most relevant and updated information also becomes easier when knowledge is shared through these systems. Collections of shared knowledge platforms like electronic databases allow employees to store and access valuable information, making it simpler for everyone to learn from shared experiences and build on each other's knowledge (Connelly et al., 2003). When it comes to manufacturing companies, these systems have become even more important for knowledge sharing, where the utilization of those systems can reduce errors and speed up training (Bollinger et al., 2001) as they provide digital platforms where every employee can access and share

their expertise and experience with each other. It plays a crucial role in supporting knowledge sharing and improving employee performance in the end, leading to better overall organizational results.

1.1.4   Reward System

An effective reward system is essential for organizations. In accordance with (Oliver et al., 2006) organizational reward systems play a huge role in motivating employees towards knowledge sharing and fostering a knowledge culture. They have suggested that indirect rewards like appreciation and recognition play a greater role than monetary rewards in knowledge sharing. (Al-Shammari & Al-Musharraf, n.d.) observed that reward systems and knowledge sharing had positive relationships, meaning that proper rewards could encourage employees to share their knowledge with fellow employees. Similarly, (Nguyen Kim et al., 2024) found that monetary rewards have an immediate effect on motivation to share knowledge. But in the long run, people should be encouraged to share their knowledge through non-monetary rewards. Manufacturing organizations experience challenges in creating efficient reward systems to share knowledge because of the technical nature of knowledge, safety concerns, and the need to create a balance between individual performance and collaboration within a team. Effective reward systems in the manufacturing environment usually combine incentives based on projects and teams with individual incentives based on knowledge repository and mentoring efforts.

2.3. Concept of performance management

Performance management is the process of determining if the work of employees' activities and outputs are in line with the organization's goals and objectives. It involves setting achievable objectives, targets and expectations, as well as providing feedback and supporting employee development (Kyriakidou, 2010)

1.1.5   Knowledge - sharing propensity, behavior and employee performance

Knowledge-sharing activities cannot be forced, they ought to be voluntary(Käser et al., 2002).The authors posit that an individual's propensity to share knowledge consists of three elements: a general positive attitude towards sharing knowledge; the perceived benefits of knowledge sharing and knowledge sharing-related self-efficacy. Taken together, these three factors represent an individual's likelihood for sharing knowledge in his/her work organization and impact the extent to which they engage in knowledge-sharing behaviors and improving work performance. In terms of knowledge sharing, this leads to the assertion that positive attitudes towards knowledge sharing are likely to increase the propensity of knowledge-sharing behaviors. A study by (Du et al., 2007) found that knowledge sharing is related to performance and different knowledge sharing dimensions influence

performance differently. When carrying out knowledge sharing and Individual Performance, people are assumed to accumulate, adopt and share knowledge in order to perform well on the job.

1.1.6   Relationship with Knowledge Management and Employee Performance

Trust facilitates knowledge sharing and enhances the individual and team performance by providing improved access to information, better decision making, and increased innovation. The manufacturing industry benefits significantly from the trust-based knowledge sharing due to complex processes and all the functions are interdependent. Trust allows the sharing of troubleshooting expertise, process enhancements, and safety observations that have a direct influence on the operational performance and the wellbeing of employees.

Effective communication and interaction between staff are essential for employee performance. Open and frequent communication allows employees to exchange ideas, clarify expectations and coordinate their efforts with greater efficiency (Smith and Mc Keen, 2003). This leads to improved teamwork, faster resolution of issues, and higher levels of innovation.

Information systems that support knowledge sharing can have a significant impact on employee performance. When employees have access to reliable and user-friendly knowledge management tools, they can find the information they need quickly and easily, reducing time wasted on searching for answers. This leads to increased efficiency, better decision-making, and higher quality work. Organizations that invest in effective information systems can gain a competitive advantage by enabling their employees to work more effectively.

Reward systems that recognize and incentivize knowledge sharing can motivate employees to perform at a higher level.(Omar Sharifuddin Syed-Ikhsan et al, 2004a).When employees know that their contributions are valued and rewarded, they are more likely to share their knowledge and collaborate with others. This leads to a more innovative and productive work environment, where employees are motivated to achieve both individual and organizational goals (Goh, 2002).

3. Research Methodology

The population of interest for this research consists of employees working in manufacturing sector organizations located in the Western Province of Sri Lanka. The manufacturing sector is a critical contributor to the country's economic growth, employing a diverse workforce across various hierarchical levels including operational staff, middle management, and executive management. For this study, organizations employing workers directly or indirectly in knowledge sharing activities were considered eligible. A Simple random sampling technique was employed in this study because it gives each employee an equal chance of being selected, which helps reduce bias and makes the results more

reliable for the whole group (Saunders et al., 2019)This method is common in studies like this for example, (Tadesse, 2020) used it on manufacturing workers in Ethiopia to check performance factors, while a Sri Lankan bank employee study on knowledge management also used simple random sampling to achieve unbiased results (Dilshani et al., 2021). Following these examples, this research also used simple random sampling based on Krejcie and Morgan's (1970) guidelines for known populations, the sample size was determined as 384 employees to achieve a representative sample. Out of these, 377 valid responses were obtained, representing a response rate of approximately 98%, indicating strong participant engagement.

For this study the cross-sectional survey design was used. The questionnaire instrument was developed to measure constructs related to motivational enablers of knowledge sharing namely trust among coworkers, communication/interaction between staff, information systems, and reward systems and their impact on employee performance. Measurement items were adapted from established scales validated in prior knowledge management research to ensure content and construct validity. Responses were captured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Data collection was conducted through a self-administered survey distributed in person to carefully selected employees. Confidentiality and anonymity were assured to encourage honest and accurate responses. Missing data was handled by excluding incomplete responses from final analyses, while responses with valid data on particular variables were retained for those analyses to maximize data usage.

Statistical analysis included descriptive statistics to profile the sample and assess variable distributions. Reliability was assessed using Cronbach's alpha. Inferential analyses employed correlation and multiple regression techniques to test hypothesized relationships between knowledge sharing motivators and employee performance outcomes. IBM SPSS software was utilized for all analysis.

3.1. Conceptual Diagram

Figure 1 shows a conceptual model of how knowledge sharing improves employee performance. The framework is drawn from an extensive review of literature on organizational knowledge management and sharing relies on such main factors as trust among coworkers, communication/interaction between staff, information systems, and reward systems as main attendance of knowledge sharing. As per the model, Knowledge sharing is the independent variable of the study and employee performance is the dependent variable.
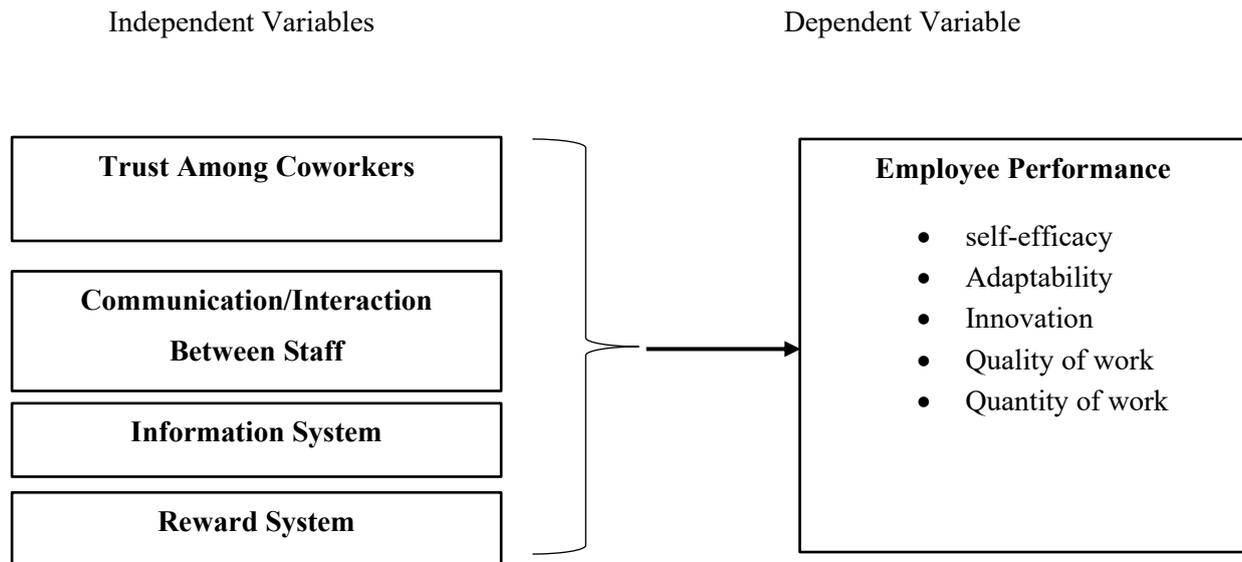
Independent Variables   Dependent Variable

Figure 2. Conceptual model of Knowledge sharing and Employee Performance

3.2. Hypothesis

Based on the conceptual model (Figure 1), this study identifies trust, communication, information systems, and rewards as the primary drivers of knowledge-sharing practices. These factors directly shape the environment for knowledge exchange, which in turn influences individual performance outcomes. By referring to prior literature, the following hypotheses are developed:

H1: Trust among coworkers in knowledge sharing has a significant positive impact on employee performance.

H2: Communication (interaction between staff) in knowledge sharing has a significant positive impact on employee performance.

H3: Knowledge sharing information system/technology has a significant positive impact on employee performance.

H4: Reward systems designed to promote knowledge sharing have a significant positive impact on employee performance.

4. Data analysis and results

The sample size for this study was decided using a simple random sampling method. The decision considered the research scope constant and accessibility of the target population; the desired sample size was set at 384. A structured questionnaire was administered for data collection. Out of the 384

questionnaires distributed, 377 valid responses were selected, while 7 were excluded from analysis due to inconsistencies and the presence of outlier effects.

Table 1 Response Rate

No. of questionnaires distributed	No of questioner distributed	No of questioner rejected	Response rate
384	384	7	98.18%

This 98.18% response rate is considered satisfactory and demonstrates strong commitment from the target population. This facilitated access to respondents relevant to the research topic that ensuring both the adequacy and quality of data collected. The collected data has been organized, tabulated, and analyzed to draw meaningful conclusions and assess relationships between the identified variables.

4.1. Reliability of the variables

To assess the reliability of measures, this study used the inter-item Cronbach alpha coefficient, following the recommendation of (Ursachi et al., 2015) the Cronbach alpha values of 0.6-0.7 indicate an acceptable level of reliability, while values of 0.8 or higher are considered to represent a very good level.

Table 2 Value of the Cronbach's Alpha

Variable	Number of items	Cronbach's Alpha
Independent Variable		
Trust among coworkers	5	0.675
Communication between staff	5	0.712
Information System	5	0.744
Reward System	5	0.808
Dependent Variable		
Employee Performance	5	0.688

The alpha values for the variables in this study were trust among coworkers (0.675), communication between staff (0.712), information system (0.744), reward system (0.808), and employee performance

(0.688). Based on these thresholds, all variables exhibit acceptable level of reliability, with the reward system variable achieving very good internal consistency and the remaining variables demonstrating acceptable reliability. Therefore, it can be concluded that the measures used in this study are reliable and internally consistent.

4.2. Normality of variables

Normal tests are conducted based on skewness and kurtosis measures. The cutoff value for skewness between -1 to +1 and kurtosis is -3 to +3 (Hair et al., 2019).When the critical value is within the range then the data is normally distributed and acceptable.

Table 3 Test of Normality

Variable	Symbol	Skewness	Kurtosis
Trust among coworkers	TC	-0.382	0.433
Communication between staff	CO	-0.656	1.635
Information System	IS	-0.673	1.698
Reward System	RS	-0.791	0.943
Employee Performance	EP	-0.412	0.820

According to the results of this study, both dependent variable and independent variables have the acceptable values for skewness and kurtosis within them. Therefore, according to the results of the SPSS this data set is acceptable for normality.

4.3. Descriptive data analysis

Table 4 shows demographic characteristics of the research sample of 377 total usable respondents. The respondent profile was analyzed from five aspects, namely the gender, age, education level, job position and years of work experience.

Table 4 Demographic characteristics of respondents

Variables	Frequency	(%)
Gender		
Male	108	28.6
Female	269	71.4
Age		
Less than 25	64	17
25-35	242	64.2
36-45	56	14.9
46-50	14	3.7
Above 50	1	0.3
Education Level		
High School	14	3.7
Diploma	31	8.2
Bachelors	270	71.6
Masters	59	15.6
PhD	3	.8
Jon Position		
Operational Staff	227	60.2
Middle-level managers	82	21.8
Executive managers	25	6.6
Other	43	11.4
Years of work experience		
Less than one year	43	11.4
1-5 years	262	69.5
6-10 years	44	11.7
11-20 years	19	5
More than 20 years	9	2.4

Beyond these general demographic statistics, several important relationships emerge among the variables. The large number of young employees in both age and years of work experience suggests either recent hiring expansion or higher turnover rates among entry-level roles, further supported by the concentration of operational staff within these categories a significant proportion of respondents possesses a bachelor's degree reflecting the largest job category (operational staff) within in sector but middle and executive management positions are filled by respondents holding master's or higher

degrees. Similarly, managerial and executive roles trend towards both higher educational qualifications and longer professional tenure emphasizing age, education level, job position, and years of work experience are closely connected and together they influence career growth, promotion opportunities, and the overall structure of the organization.

The description of the survey is also shown in following Table 5. The study used a 1-5 Likert scale to assess the independent and dependent variables, where respondents rated their level of agreement from "strongly disagree" to "strongly agree."

Table 5 Descriptive statistics

Variable	Mean Range	SD Range
Trust	3.92 - 4.13	0.596 - 0.681
Communication	3.90 - 4.19	0.627 - 0.721
Information System	3.96 - 4.14	0.616 - 0.736
Reward System	3.77 - 4.00	0.672 - 0.853
Employee Performance	3.96 - 4.12	0.597 - 0.717

The descriptive analysis of the Trust variable shows that mean scores for the five items range from $(M = 3.92 - 4.13)$ and $(SD = 0.596 - 0.681)$ suggesting that most participants agreed or nearly agreed with the statements and have a positive view of trust amount coworkers. This suggests that trust is well-established in the workplace, creating a safe space where employees feel comfortable sharing knowledge without fear of negative consequences.

The analysis of the Communication variable shows consistently positive responses, with mean scores of $(M = 3.90\text{-}4.19)$ with the standard deviations $(SD = 0.627\text{-}0.721)$. This suggests that employees generally have a positive view of communication within their workplace.

The descriptive analysis of the Information System variable indicates a strong positive perception among respondents. Mean scores for the five items range from $(M = 3.96 - 4.14)$ with standard deviations between $(SD = 0.616 - 0.736)$ reflecting a high level of agreement and low response variability. These results suggest that employees are generally satisfied with the technological tools provided by the organization and feel comfortable using them.

The descriptive analysis of the Reward System variable shows moderately high mean scores, ranging from about $(M = 3.77 – 4.00)$, with standard deviations between $(SD = 0.672 - 0.853)$. This indicates

that most employees view the reward system positively, although there is some variation in opinions, particularly regarding the fairness and motivational impact of the incentives.

The descriptive analysis of the dependent variable, Employee Performance, shows generally positive responses, with mean scores ranging from *(M = 3.96 - 4.12)* and standard deviations between *(SD= 0.597- 0.717)* , indicating low variability in responses. Overall, employees perceive that their performance considering adaptability, innovation, work quality, and collaboration is positively influenced by knowledge sharing activities.These findings support the idea that knowledge sharing can significantly enhance both individual and organizational performance.The results suggest that factors such as trust among coworkers, effective communication, information systems, and motivating reward structures work together to improve employee outcomes. This reinforces the important relationship between knowledge management practices and performance within organizations.

4.4. Correlation Analysis

Correlation analysis is an important statistical technique used to examine the strength and direction of between pairs of variables. It indicates whether variables tend to move in the same direction (positive correlation) or in opposite directions (negative correlation).

Table 6 Results of Pearson's correlation test

		Trust	Communication	Information System	Reward System	Employee Performance
Trust	Pearson Correlation	1	.599**	.587**	.529**	.600**
Communication	Pearson Correlation	.599**	1	.537**	.480**	.518**
Information System	Pearson Correlation	.587**	.537**	1	.612**	.634**
Reward System	Pearson Correlation	.529**	.480**	.612**	1	.583**
Employee Performance	Pearson Correlation	.600**	.518**	.634**	.583**	1

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

Table 6 shows the bi-variate correlation coefficients of factors related to knowledge sharing and their relationship with employee performance. The correlation coefficients in total were generally above 0.5 and all were highly significant. Notably, all the four examined variables trust, communication,

information system, and reward system exhibited significant and positive relationships with employee performance. The strength of these correlations aligns with the guideline suggested by(Evans, 1996) for the absolute value of ($-1 \leq r \leq +1$) indicating moderate relationships between the factors and employee performance.

4.5. Multiple regression analysis

To test the hypotheses formulated, multiple regression analysis was conducted. The assumptions of the analysis were first ascertained before the final interpretation was done. The results are presented in Table 7 below.

Table 7 Results of multiple regression analyses

Variables	β	Std. Error	Std β	t	Sig.
Trust	.254	.051	.246	4.939	.000
Communication	.102	.046	.104	2.209	.028
Information System	.284	.048	.300	5.948	.000
Reward System	.167	.036	.219	4.597	.000

$R^2 = 0.519$; Adjusted $R^2 = 0.514$; F = 100.548; Sig.000

Hypothesis 1 in this study predicted that there would be a significance positive relationship between trust among coworkers and employee performance. consistent with previous studies that view trust as a fundamental quality for effective knowledge sharing (Raza et al., 2018; Smith and Mc Keen, 2003). According to the results of the correlation analysis, there is a significant positive relationship between trust and employee performance *(r = 0.600, p < 0.01)*. Trust also appeared as a significant predictor of employee performance in the regression analysis. According to Table 2, trust significantly predicted employee performance *(β = 0.246, p < .000)*. Hence, there is adequate evidence to support hypothesis 1; that trust among coworkers is positively related to the performance of an employee. supporting the integrative model of organizational trust proposed by (Schoorman et al., 2007).

A significance positive relationship between communication and employee performance was predicted in the Hypothesis 2, aligning with findings that openness in communication enhances individual work performance. According to the data shown in Table 1, it is evident that there is a significant positive correlation between communication and employee performance *(r = 0.518, p < 0.01)*. Although communication appeared as a significant predictor in the regression analysis *(β = 0.104, p = 0.028)*.

Thus, hypothesis 2 was supported by the data, confirming (Smith et al., 2002) assertion that clear communication builds trust and strengthens team relationships.

Hypothesis 3 predicted that there would be a significance positive relationship between knowledge sharing information systems and employee performance. The results of both correlation *(r = 0.634, p < 0.01)* and regression analysis suggest that information systems have a significant positive relationship with employee performance. Specifically, the information system emerged as the strongest unique predictor of employee performance in the regression analysis *(β = 0.300, p < 0.000).* Thus, there is strong evidence to support hypothesis 3, consistent with (Smith et al., 2003), who noted that advanced information infrastructure directly correlates with organizational performance.

In hypothesis 4, it was expected that there would be a significant positive impact from reward systems on employee performance, as incentives are crucial for motivating knowledge transfer. According to Table 2, the reward system was found to be a significant predictor *(β = 0.219, p < 0.000).* This is further supported by the correlation analysis, which showed a significant positive relationship *(r = 0.583, p < 0.01).* Thus, hypothesis 4 is supported, corroborating the view that valued rewards lead to a more productive work environment (Omar Sharifuddin Syed-Ikhsan et al., 2004)

According to the Model Summary, it is clear that these motivational variables contribute to the variance accounted for in employee performance. The four independent variables accounted for significant variance in the outcome, explaining approximately 51.9% *(R² = .519, Adjusted R² = .514)* of the variation in employee performance can be explained by the independent variables; Trust among coworkers, Communication, Information System, and Reward System. This suggests that just over half of the variation in the outcome was accounted for by the predictors included in the model, with the remaining 48.1% explained by the other predictors, which are in out of this study. In social science research, an adjusted R-squared value below 0.7 (0.4-0.6 range) is also acceptable due to the complexity of human behaviour and performance in organizations. (Al-Alawi et al., 2007; Henttonen et al., 2016). Hence the overall model is statistically significant *(F = 100.548, p < 0.000).*

5. Conclusion

The findings of the current study pave the way for an unexplored area in knowledge management research within the Sri Lankan context. The present study goes beyond the current empirical base by identifying specific motivational enablers in the manufacturing sector. Similar to previous studies on organizational trust (Schoorman et al., 2007), the current study also found that trust facilitates knowledge sharing and enhances individual performance. This effect highlights that when employees trust their colleagues' reliability and goodwill, they are more likely to share troubleshooting expertise and safety observations without fear of negative consequences. Thus, the current findings are in line

with past literature. The current study found evidence to support the positive relationship between communication and employee performance, thereby validating previous research evidence (Smith et al., 2002). According to the result of this study, it is clear that clear and open communication helps reduce confusion and strengthens team relationships. Nevertheless, the results suggest that communication has a smaller relative effect compared to other factors. This may be because communication acts as a facilitator that requires other structural mechanisms to fully translate into performance gains. Consistent with prior findings (Alavi et al., 2001; Smith et al, 2003), the information system appeared as the strongest predictor of employee performance. This result suggests that robust technological infrastructure is essential in manufacturing environments to reduce errors and speed up training. The favourable evaluation of these systems indicates that easy access to knowledge directly enhances employee efficiency.

Further, the findings regarding the reward system support theoretical arguments by (Omar Sharifuddin Syed-Ikhsan et al., 2004), confirming that external rewards effectively motivate employees to engage in knowledge transfer. When employees perceive the reward system as fair and transparent, they are more likely to collaborate, leading to a more innovative and productive work environment.Nevertheless, findings of the current study suggest that knowledge sharing is an important factor which relates to employee performance. The identified factors accounted for 51.9% variance in performance levels. Hence, managers and HR practitioners must consider these motivational profiles when devising organizational interventions. Organizations should foster trustful relationships and invest in user-friendly information systems. Further, organizations can implement transparent reward schemes that align with collaborative goals.

There are several limitations in the current study which are worthy to be noted. One of them is that the study's results may be influenced by common method bias as the data was collected through self-report from a single source. Such a self-report bias could have been further compounded as this study relied on employees' perceptions of their own performance. Hence, the researchers are distant from the objective performance metrics. Even though self-report is a suited methodological choice for this type of study, taking insights from supervisors or objective HR records could potentially enhance the picture. A solution to tackle this issue in the future is employing mixed methods research rather than depending on quantitative methods.

Secondly, this study is a cross-sectional study, which may prevent a firm holding of causal inferences made in this study. However, it must be noted that the current study is built on a sound theoretical basis supported by previous evidence. Future research in this area could overcome cross-sectional bias through adopting longitudinal designs to assess changes over time.Further, the sample of the current study only consists of participants from the Western Province of Sri Lanka's manufacturing sector; thus, the generalizing of these current findings to other regions or industries may be problematic. There are many other sectors which are socially and economically different. In future, it is encouraged to perform

these types of studies on a broader scale, gathering information from other provinces and industries such as the service or agricultural sectors.

In conclusion, this study provides a unique contribution to the area of knowledge management research through exploring how trust, communication, information systems, and rewards impact performance in the manufacturing sector. Based on findings of the present study, it is clear that knowledge sharing is an important factor which contributes to the employee performance. Information systems were the most related factor to performance, followed by trust among coworkers. Communication and reward systems also showed substantial relationships with performance. These findings indicate that integrating both the human and technological dimensions of knowledge sharing is critical for achieving sustainable performance improvement.

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Exploring the Role of Sound in Horror Films: Gen Z Viewing Preferences Across Personal Devices and Theatrical Screens

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Abstract

This study investigates the impact of sound on the viewing preferences of Generation Z in the context of horror films, with a focus on comparing the experience of watching on personal devices versus in theatres. Sound plays a crucial role in enhancing fear and suspense in horror films, making the viewing environment an essential factor in the overall experience. A quantitative research approach was adopted, utilizing an online survey of 200 Gen Z participants to collect data on their viewing habits, sound preferences, and perceptions of sound quality across different platforms. The results show that while a majority of respondents prefer the convenience of watching horror films on personal devices, a significant portion acknowledged that theatres offer a superior sound experience that heightens the horror effect. Additionally, 65% of respondents reported using headphones to improve sound quality when viewing on personal devices, though many still noted that this does not fully replicate the immersive soundscapes of a theatre. The findings suggest that sound design is a key factor influencing Gen Z's preference for viewing platforms, highlighting the need for optimized sound experiences across both personal devices and theatre screens. These insights provide valuable recommendations for filmmakers and streaming services aiming to enhance the horror film experience for Gen Z audiences.

Keywords: film sounds, horror films, generation Z, viewing preferences, film screening

1. Introduction

Sound plays a central role in the horror film genre. It functions not merely as a supporting element but as a primary vehicle for emotional and psychological engagement. According to Michel Chion (1994), sound in cinema provides "added value," giving visuals additional meaning and emotional weight. In horror films, this is evident through unsettling soundscapes, sudden auditory shocks, and low-frequency vibrations that heighten fear and suspense. As a result, the auditory dimension often defines the horror experience more than visuals alone (Sonnenschein, 2001). At the same time, audience viewing habits have changed significantly. Generation Z, born between the mid-1990s and early 2010s, increasingly consumes films on personal devices such as smartphones, tablets, and laptops. As digital natives, they prioritize mobility, accessibility, and flexibility in their media consumption. This shift from traditional cinema settings to portable devices raises questions about how effectively sound, especially in horror, delivers its intended emotional and psychological impact in different viewing environments (Statista, 2022; Nash, 2020). Advanced technologies like Dolby Atmos have made theater sound more immersive and multidimensional, offering a rich sensory experience that is difficult to replicate on smaller personal devices (Meyer and Anderson, 2019). In contrast, mobile devices often lack the depth and spatial sound quality needed for a fully immersive horror experience. Although many Gen Z viewers use headphones to improve audio clarity (Gibbs, 2020), the spatial and emotional effects of sound may still be reduced. This study explores how sound influences the horror film experience for Generation Z across different platforms. It investigates whether the immersive quality of horror soundscapes is maintained when viewed on personal devices compared to traditional cinema settings. The aim is to assess how these shifts affect emotional engagement and viewing preferences, offering insights for filmmakers, sound designers, and content providers as they adapt to evolving audience habits.

1.1. Research Questions

1. To what extent does sound influence Generation Z's preference for watching horror films on personal devices compared to standard theatres?
2. Does sound quality impact the emotional and psychological responses of Generation Z across different platforms?
3. Can personal devices effectively replicate the immersive sound experience of theaters for horror film audiences in Generation Z?

2. Literature Review

2.1. The Role of Sound in Horror Films

Indeed, sound design is an important feature in the horror film genre, lending an emotional and psychological edge to the viewing experience. In the words of Michel Chion (1994), sound in cinema carries much more than an auxiliary element in the visual for a deep psychological influence on shaping audience perception and increasing emotional arousal, especially in horror. Chion introduced the concept of "added value" to describe how sound charges scenes with meaning beyond that which is available through vision. In horror films, this "added value" becomes a key tool for inducing fear and manipulating suspense and psychological tension and therefore forms an integral part in the immersive qualities of horror films.

Sonnenschein, 2001 then goes on to outline specific sound techniques that are common to elicit fear and anxiety in horror cinema. The deliberate auditory choices involve low-frequency sounds, sudden loud noises, and carefully crafted silences that meet the viewer on both a sensory and an emotive level. For example, low-frequency sounds are notably well-documented to have physiological effects on humans, such as palpitations and hypervigilance, in order to create an omnipresent sense of anxiety. Where sudden loud noises are deployed, often as part of a "jump scare," the aim is to elicit a startle response that directly engages the viewer's sympathetic nervous system. As Sonnenschein (2001) illustrates, this physiological response underlines the crucial role of sound in eliciting a visceral, embodied response that may not be as readily available through more visually driven approaches.

Hutchison (2019) presents an investigation into the mechanism of jump scares in horror movies. According to him, such efficiency of the scare happens because the auditory clue disrupts the feeling of safety and control for a moment. Typically accompanied by loud, unexpected noise, jump scares have become a certain feature of horror movies using the human startle reflex as a potential for memorable terror moments. This is primarily an auditory effect, in that a jump shock requires a sudden contrast in levels to achieve its effect. The efficacy of jump scares and other sound-based approaches to horror does, of course, rely on the quality of the sound system through which the film is experienced. This visceral quality can be considerably demeaned when it is viewed on various devices that possess low sound quality, which potentially can dilute an immersive effect into a weakened one.

Advanced sound systems, like Dolby Atmos, make the experience in theaters unlike what home viewing could offer. Meyer and Anderson (2019) discuss Dolby Atmos and other high-definition sound technologies that create an enveloping three-dimensional soundscape around the viewer, placing them into a real three-dimensional auditory environment, increasing the sensory impact of the movie. This auditory immersion is what captures the essence in horror films since sound in horror films is carefully

crafted to guide an audience's attention, shape mood, and heighten suspense. Meyer and Anderson (2019) note that the Dolby Atmos sound system in a theatre provides the viewer with soft, directional auditory suggestions of increased spatial awareness of sound to different locations and directions, often so important to the attempt of horror to disorient and frighten.

It is this spatial and immersive sound quality that has been argued to enhance further a sense of realism and engagement, given how audiences in a theater are more likely to feel enveloped within the film's world. For example, steps coming from behind or a whispered voice somewhere in the distance that seems to circle around one certainly gives rise to a greater sense of presence and immediacy within the theater setting and pulls an audience deeper into an experience of horror. On the other hand, such effects are usually muffled or lost on personal devices, since sound is usually confined to stereo output through smaller speakers or standard headphones. This technological limitation constrains the full realization of sound design and lowers the immersive potential so crucial for the horror genre.

Research into the psychological effects of soundscapes in horror films by Jørgensen (2018) supports the idea that indeed, theater sound systems greatly enhance the experience of horror. Jørgensen highlights that through sound, there can be created an environment of psychological "claustrophobia," where audiences feel trapped within the auditory space, unable to escape the sounds of horror surrounding them. Working primarily through this sense of containment, and particularly when theaters have good sound facilities, the audience is made especially susceptible and the reaction to fear heightened. According to Jørgensen, "When perceived in the cinema, these auditory elements enhance the feelings of dread and anticipation because audiences cannot actively master or reduce the auditory effect of the sounds they perceive.".

While horror soundscapes have had to combat their share of critical disappointments, the move of cinema to streaming platforms increasingly is throwing up new obstacles that require adaptation to personal device environments. Smaller screens and low sound output make for a very different experience in horror movies. Rich and multilayered sound built for theaters often turns out simplistic and flat. The shift is also addressed by Williams; he says that since the mobile phone has become the desired medium of consumption for Generation Z, filmmakers will need to "upmix" those elements frequently in order to have these elements be effective across platforms. Even with these adaptations, Williams argues that the full audio richness of horror movies is rarely translated to personal devices, as mobile sound systems cannot replicate surround sound or dynamic range courtesy of advanced theater systems.

In summary, this aspect of sound within a horror film has multiple layers to the levels of the cinematic experience that emotionally make a huge difference in response to various techniques, whether it is low-frequency sounds, jump scares, or immersive soundscapes. While advanced sound techniques make

theaters even more stunning, thereby creating a more realistic experience for an audience, personal devices can't do the same with audible power. It will be important to learn from these limitations for filmmakers and researchers alike, concerned as they are with the future of the horror genre and innovative uses of sound design within it, as this generation continues to stream on personal devices.

2.2. Generation Z's Media Consumption Preferences

Generation Z, born roughly from the middle of the 1990s to the early 2010s, is the first generation that grew up in times when technology was rapidly developing. This predetermined the difference in how media would be consumed by them versus any other generation. Indeed, digital natives like members of Generation Z decidedly show a preference for personal devices, such as smartphones, tablets, and laptops, for media viewing rather than traditional platforms like TVs or movie screens. Yet, this shift in viewing habits is not an incidental one but a reflection of a generational trend toward convenience, flexibility, and autonomy in media consumption. As Schawbel noted, the media behaviors of Generation Z are driven by a feeling of control over what they watch, where, and when, enabled by streaming platforms such as Netflix, Hulu, and Amazon Prime Video, which have taken center stage in the generation's entertainment choices.

Statistics confirm this trend: in 2022, according to Statista, over 70% of Gen Z viewed most of their media on personal devices, using ease of portability and access over an immersive environment. This underlying change in viewing habits means that, by and large, Gen Z viewers often want to watch content "on the go," fitting lifestyles that are increasingly mobile and flexible. The streaming platforms have taken full advantage of this predisposition by providing extensive libraries one can avail at any time and from almost anywhere, adhering to the values of convenience and immediacy intrinsic to this generation.

This, combined with the development of streaming technology, which boasts high-resolution visuals and audio, complements the convenience of personal devices to cater to viewing pleasures on devices that comfortably fit within the daily routines of Gen Z. This move away from theaters was because, for one, a number of high-end streaming content is made available, and secondly, people find watching films or a series much cheaper and less hassle in the comfort of one's own space. Indeed, for today's Generation Z-most indoctrinated with promises of an on-demand, hyper-personal media environment-the aura of a cinema outing would arguably be quite less salient, given the access and flexibility offered by personal device platforms.

But one compromise of this device-based preference lies in the sacrifice of sound quality. Unlike theaters that boast state-of-the-art sound systems, such as Dolby Atmos, personal devices lack the depth

and surround capabilities that make for an immersive experience. To make up for this, many viewers from Gen Z use headphones to enhance their audio when viewing, and Gibbs says, "It's estimated that about 65% of Generation Z uses headphones when watching movies on a personal device.". With headphones, there is an enhanced audio rather than on most mobile devices' inbuilt speakers; added clarity and isolation work to minimize external distractions and help heighten focus on the content.

However, even very good-quality headphones cannot fully replicate the spatial dynamics of a theater sound system. Multi-channel and surround sound make the audio of theater sound systems enveloping, an important part of the emotional experience of viewing, especially in those genres like horror where the ability of sound to build suspense and induce fear plays such a vital role. Here, Meyer and Anderson add that such audio qualities are so integral to horror films, where even volume and directionality work in concert to heighten a sense of immersion and physicality. Without access to these features, device-based viewers miss out on the full spectrum of auditory depth and intensity that can reduce the emotional impact of movies.

Williams, 2020, comments that poor personal device sound systems have influenced media companies and filmmakers into increasingly adapting content to suit the conditions of device-based viewing. For example, sound design can be simplified or altered to preserve intelligibility and emotional resonance despite the minor speakers. These adjustments aside, personal devices do weaken the auditory experience due to their inability to navigate surround effects and bass levels reproduced at movie theaters. This is especially pertinent in horror films since it is within the aural atmosphere that lies the very core of their ability to terrify and amaze an audience. As such, personal devices may be an excellent answer to the growing demand of Gen Z for flexibility but have failed to deliver anything like the experience of the cinema.

Nevertheless, the dependency on personal devices is part of the cultural shift to digital integration and immediacy that has utterly reshaped the way media is consumed by Generation Z and accounts for dynamic placement over traditionally immersive cinema. This is a trend showing the great importance of sound in their interaction with media, with this generation growing in seeking ways to amplify device-based audio quality, many times using additional tools: headphones or external speakers. As media consumption continues to evolve, understanding the preferences of Generation Z provides valued insight for filmmakers, streaming platforms, and audio engineers as they work to craft experiences resonating with this mobile, digitally savvy audience.

In summary, the hallmark of Generation Z's media consumption is device ownership coupled with a penchant for the ease and flexibility provided by streaming platforms. Even though the auditory limitations of mobile devices somewhat contradict the immersive qualities of genres like horror, Generation Z clings to the convenience of portable viewing, often supplementing sound quality with

headphones for maximum experience. It is a generational shift in media consumption, redefining audience expectations and making content creators reimagine traditional approaches to sound design in hopes of better catering to an audience who genuinely has a digital focus.

2.3. Sound and Immersive Experiences in Theaters vs. Devices

The difference in audience engagement, especially in genres like horror, which rely a lot on sound to immerse or terrify their audience members, is due in part to the fact that theaters can offer an auditory experience fundamentally different from personal devices. Theaters are fitted with specific sound technologies such as Dolby Atmos that create a multidimensional auditory experience. Dolby Atmos by Nash 2020, and other similar systems involve directions that sound could be perceived from, creating an auditory environment whereby the viewer feels surrounded by sounds of the film. The spatial audio effect adds to the increase in realism; it is supposed to plunge the audience into the world of the cinema with immense force and enhance the sensory and emotive effect of a movie.

Meyer and Anderson (2019) notice that this feature of immersion is especially pronounced in the genre of horror films, where audio is one of the main builders of tension, inducers of fear, and creators of suspense. In a movie theatre, through powerful auditory effects such as sudden changes in volume, directional cues, and low-frequency sounds physically resonating with the audience, sound systems can carry out an overwhelming experience which heightens fear. These audio hints are very important in building up the psychological atmosphere that is usually characterized by increased suspense and shock among the audiences. With Dolby Atmos, multidimensional soundscapes make sounds fly across the theatre with ease of movement across the space of the theater, hence reinforcing the sensation that unsettling noises are coming from behind or above, hence elevating the film's capacity to disorient and frighten.

In contrast, theaters can boast spatial depth and quality of sound, while personal devices can provide only minimally developed audio capabilities. Generally, personal devices, such as smartphones, tablets, and laptops, lack sophisticated sound hardware that would allow them to produce comparative auditory depth and spatial effects. According to Gibbs, even in the case of high-class headphones, which many viewers use to enhance the quality of sound insulation, the spatial dynamics of sound are hardly reproducible. Headphones, on the other hand, just can't compete with that because, while they block out external noise and allow the viewer to hear the audio track better, they don't allow the viewer to experience directional sound as one does in a theater, which suggests the sound is coming from various locations in a three-dimensional space. Thus, they don't have the capability of allowing viewers to envelop themselves in a true audio atmosphere, which they would have been able to do in a movie theater environment.

This can be attributed to the reduced sound experience that often occurs on personal devices. Surround sound in theaters puts viewers into spaces where they could feel a greater sense of vulnerability in that they are surrounded by auditory cues of threats in multiple directions. This is an effect more difficult to create on personal devices, which often have a more linear sound that is less dynamic, without the spatial spread that would create a completely immersive experience. Without physicality from low frequencies and the distribution of sound cues in space, the auditory intensity of fear that occurs in horror films is dulled, creating a weaker emotional response.

The emotional impact of a horror movie, which mostly depends on its sound, is thus compromised in personal devices. For instance, scenes intended to make viewers confused or scared-like footsteps approaching from the backside, or some sudden sounds coming from an unpredictable direction-do not have much effect when viewing devices are used. Jørgensen said that sound plays a huge role in developing "psychological claustrophobia" in a horror movie where the audiences feel entrapped or about-to-happen danger because of the audio signals. That effect could barely be given if watched anywhere outside the theatre since surround sound and spatial audio are lacking, restricting him from experiencing sound as an enveloping, immersive element.

Further, the more personal devices become the major platform of media consumption for Generation Z, the more it questions how filmmakers and sound designers might be trying to adapt to these evolving viewing contexts because of the limiting factors provided by mobile sound systems. Williams says that filmmakers have begun to simplify or adapt sound mixes for films that will be viewed largely on these smaller devices; after all, detail of a full theater's worth of sound might not be recognized. For instance, sound effects are normally upmixed or beefed up to speak to clarity rather than to spatial depth-a function more suitable for stereo headphones but cutting down on the multi-dimensional, multi-directional experience in audio desired in theaters. This clearly comes at the expense of the horror movie experience, since the simplified sound cannot convey all of the intensive auditory experience in a theater.

As it is for most viewers, especially Generation Z moves to plug in high-quality headphones to fix the sound; even the best personal audio devices can't pick up spatially resolved audio that the cinema is capable of. This makes the theater's capability to provide an immersive sound from angles, with increased bass and subtle volume changes, one very specific to a movie-going experience that may be hard to replicate on a device. By the same token, horror films rely on such audio characteristics in order to incite fear and tension, usually suffering a little when not viewed in a theatrical environment.

The sound systems of theaters and personal devices are what really create the defining factor in the viewer's level of immersion and emotional engagement with the horror film. Theaters have advanced sound technologies that are spatial and sensory, which fully engage viewers and amplify the emotional impact of the genre. While personal devices may be quite convenient, offering the potential for greater

portability, they lack the capability of creating this multi-dimensional audio experience; it consequently often produces a flat soundscape, influencing viewer response to such films in horror. To that end, consideration of these differences within the auditory experience is necessary for filmmakers, especially those working within sound-based genres like horror, in order to adapt their work to preserve immersive qualities across multiple viewing platforms.

3. Materials and Methodology

The materials used in this study were selected to effectively capture Generation Z's horror film viewing preferences and sound experience across different platforms. The primary data collection tool was a structured online questionnaire consisting of 21 items. The questionnaire, designed using Google Forms, included multiple-choice questions, Likert-scale items, and ranking-based prompts. It covered key areas such as demographic details, frequency of horror film consumption, preferred viewing platforms, types of sound systems used, emotional responses to sound, and sensitivity to sudden audio cues. To provide participants with contextual clarity when answering questions related to sound elements in horror films, references to widely recognized horror titles were included. Examples such as *A Quiet Place*, *The Conjuring*, and *Hereditary* were cited to illustrate audio techniques like jump scares, ambient tension-building music, and the use of silence. Although participants were not required to watch any specific clips, these references helped ground their responses in commonly understood cinematic sound conventions. Participants also reported the types of devices and sound systems they used when watching horror films. This included playback platforms such as smartphones, laptops, tablets, and televisions, as well as audio outputs like built-in speakers, external sound bars, and headphones. These details were essential for assessing the variance in immersive sound experiences across personal and theatrical environments.

3.1. Methodology

This study employs a quantitative, cross-sectional research design to investigate the influence of sound design in horror films on viewer engagement, with particular emphasis on the impact of the viewing platform. The quantitative approach enables systematic measurement and analysis of audience experiences across diverse audiovisual environments, facilitating statistical comparisons of behavioral responses. Data collection was conducted using a structured, self-administered online questionnaire. The instrument was designed to capture key dimensions, including horror film consumption patterns, platform preferences, emotional responses to auditory stimuli, and perceptions of sound quality. The questionnaire comprised 21 items utilizing multiple-choice, five-point Likert scale, and ranking formats. It was segmented into three sections addressing general viewing behavior, auditory experience, and

immersive perception. The use of online surveys is well established for efficiently obtaining reliable user feedback in naturalistic settings. To enhance response validity, the questionnaire incorporated references to critically acclaimed horror films known for innovative sound design. These examples contextualized questions by illustrating specific auditory techniques such as ambient tension, jump scares, and the strategic use of silence. Additionally, the survey gathered information on the types of devices and audio equipment commonly employed by participants, including smartphones, laptops, home theater systems, built-in speakers, headphones, and soundbars. Understanding the listening context is essential for assessing the effectiveness of sound elements in eliciting emotional responses, particularly within the horror genre, where audio plays a pivotal role in viewer engagement.

3.2. Sample Collection

Data for this study were collected through a structured online questionnaire distributed over a period of three weeks. The survey link was shared via academic mailing lists, university digital platforms, and selected social media channels to reach a wide and diverse group of respondents. The choice of online distribution was based on its effectiveness in reaching Generation Z, who are highly engaged in digital communication environments (Anderson & Jiang, 2018). Participation in the study was entirely voluntary. Respondents were required to confirm their eligibility by indicating that they had watched at least one horror film in the previous six months. Prior to beginning the questionnaire, each participant was presented with an informed consent statement outlining the study's objectives, their rights as participants, and a confidentiality notice. Participants were informed that the survey would take approximately 5–10 minutes to complete and that no personally identifiable information would be collected. In total, 200 valid responses were gathered and screened for completeness and relevance. Incomplete submissions or responses that did not meet the inclusion criteria were excluded from the final analysis. The online format allowed for efficient collection of data and ensured anonymity, which is especially important when exploring personal emotional responses and preferences. The collected data were exported to Microsoft Excel and manually cleaned before analysis. Any duplicate entries or contradictory responses were removed to maintain data integrity. Descriptive statistical techniques were then applied to interpret the results in line with the study's objectives.

4. Results and Discussion

4.1. Analysis of the Results

This section presents the descriptive statistical analysis of the data collected from 200 valid responses. The aim was to identify trends in Generation Z's horror film viewing behavior, platform preferences, and the perceived role of sound in shaping emotional engagement.

4.1.1. Viewing Preferences and Platforms

The findings indicate a dominant preference for home viewing, with 91.9% of respondents choosing to watch horror films on personal devices, compared to only 8.1% who prefer theaters. This trend reflects a shift toward convenience and flexibility, driven by technological advancements and lifestyle changes. While theaters offer immersive audiovisual experiences, their appeal remains limited to a niche audience. Consequently, filmmakers and streaming platforms must prioritize optimizing sound and visual quality for home viewing environments.

Figure 1

Viewing Preferences: Home vs. Theaters
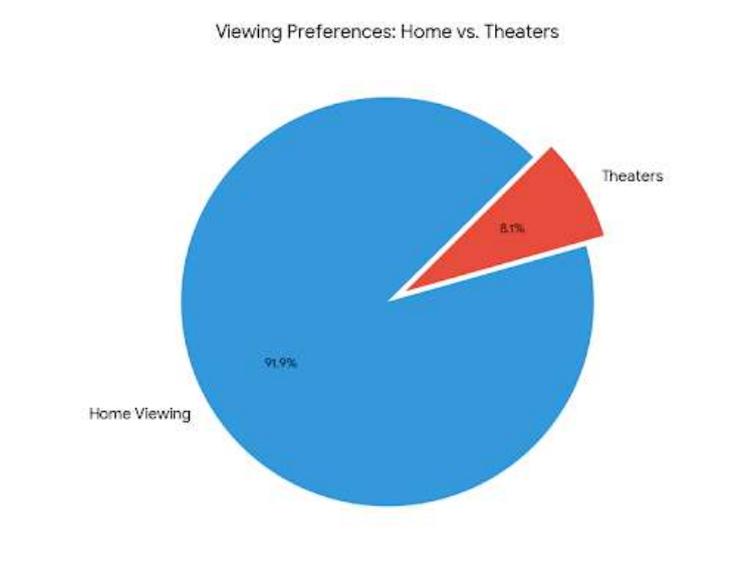
4.1.2. Key Factors Influencing Film Selection

When selecting horror films, respondents prioritize narrative strength, with 72.6% considering story or plot as the most important factor. Sensory elements such as visual effects (59.7%), thrill factor (54.8%), and sound design (46.8%) also play significant roles in shaping audience choices. Interestingly, the cast is the least influential factor (27.4%), suggesting that star power is less relevant in this genre compared to storytelling and atmospheric elements. These insights emphasize the need for cohesive narratives paired with strong audiovisual components to meet audience expectations.

Figure 2
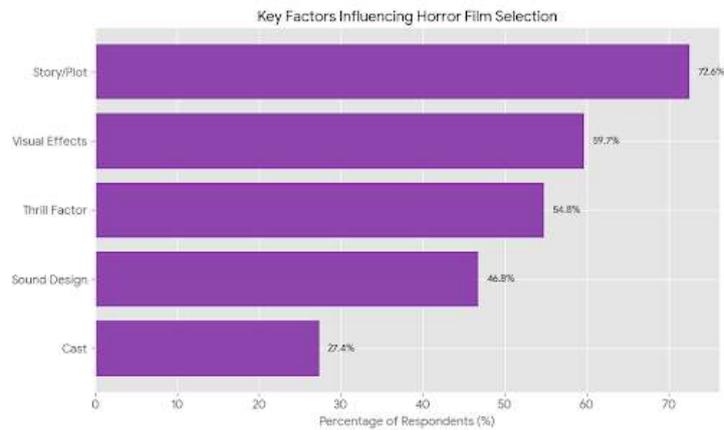
4.1.3. Role and Impact of Sound

Sound emerges as a critical component of the horror experience. Over 77% of respondents believe sound effects are very or extremely important, and 83.9% agree that sound is more impactful in theaters, highlighting the superior acoustic environment of cinemas. However, advancements in personal audio setups—such as headphones (used by 54.8%) and external speakers—are bridging this gap for home viewers. Jump scares (37.1%) and eerie background ambiance (30.6%) are considered the most effective sound techniques, while character voices and silence contribute to tension but are less dominant.

Figure 3
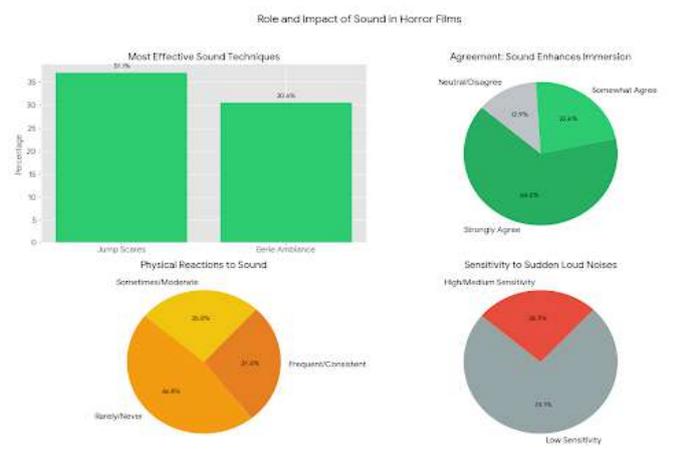
4.1.4. Reasons for Platform Choice

Convenience (62.9%) and cost-effectiveness (37.1%) are the primary reasons for watching horror films at home, while multitasking (32.3%) and comfort in managing fear (25.8%) also influence this preference. Conversely, immersive sound and visuals (24.2%) and heightened fear intensity (22.6%) attract theater-goers. Despite these attractions, the social aspect of theaters is less significant, with only

14.5% citing it as a reason. This suggests that practical considerations outweigh experiential factors for most viewers, reinforcing the dominance of home viewing.

Figure 4
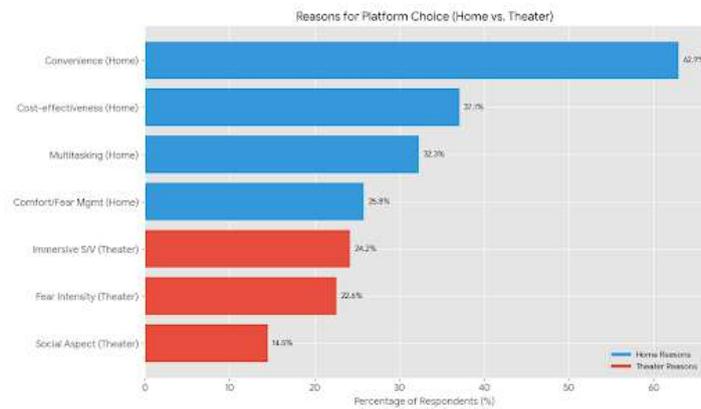
4.1.5. Immersion and Emotional Impact

The majority of respondents (87.1%) agree that sound effects enhance immersion in horror films, with 64.5% strongly agreeing. While sound rarely evokes physical reactions for most viewers (46.8%), a notable minority (27.4%) experiences frequent or consistent responses, such as jumping or goosebumps. Sensitivity to sudden loud noises varies, with 74.1% reporting low sensitivity, indicating that while jump scares are effective, their impact is not universal. Overall, sound remains a pivotal tool for creating fear and psychological engagement, making it essential for filmmakers to leverage sound design strategically across platforms.

4.2. Discussion

The dominance of home viewing in this sample (91.9% vs. 8.1% for theaters) reflects a broader shift in consumption driven by convenience, flexible scheduling, and lower per-view costs associated with streaming. Recent comparative analyses show that although audiences often rate films higher in theaters; likely due to the immersive environment, the practical advantages of home viewing continue to pull behavior toward domestic platforms (Ho, Eliashberg, Weinberg, & Wierenga, 2023; Ho et al., 2024). Still, generational nuances persist; U.S. survey data in 2025 found Gen Z maintained notable theater loyalty for communal genres like horror, even as home streaming became a daily habit for most viewers (InsightTrendsWorld, 2025). Taken together, the findings of this study align with a global migration to home viewing while acknowledging that the theater's affective and social appeal remains salient for a subset of viewers (Ho et al., 2024; InsightTrendsWorld, 2025).

Participants' prioritization of story/plot (72.6%), followed by visual effects, thrill, and sound design, with cast least important, mirrors contemporary scholarship that locates the power of horror in atmosphere, subtext, and formal execution rather than star presence. Work on recent "horror renaissance" cycles highlights audiences' gravitation toward thematically rich, psychologically resonant narratives (Baker, Rutherford, & Pamatatau, 2023). Psychological syntheses further suggest individual differences (e.g., sensation-seeking, empathy dimensions) modulate preferences for tension and narrative complexity—traits that make strong plotting and aesthetic control more compelling than celebrity (Martin, 2019). This distribution thus supports the view that horror's value proposition is an integrated package of narrative cohesion and carefully engineered sensory cues (Baker et al., 2023; Martin, 2019).

The centrality of sound in this dataset, over 77% rate it very or extremely important, 83.9% experience greater impact in theaters, and 54.8% use headphones at home—accords with evidence that sound design orchestrates fear via dissonance, atonality, dynamic range, and silence (Shehan, n.d.; Gong & Zhang, 2021). Computational work shows that horror soundscapes reliably modulate tension, arousal, and valence, underscoring why techniques like jump scares and eerie ambiance dominate perceived effectiveness (Lopes, Liapis, & Yannakakis, 2017; Gong & Zhang, 2021). The theater's acoustic infrastructure (room geometry, calibrated speaker arrays) likely explains respondents' higher perceived impact in cinemas, while the rise of high-quality headphones at home helps narrow—but not erase—this gap (Ho et al., 2024; Shehan, n.d.).

The split between functional drivers for home (convenience, cost, multitasking) and experiential drivers for theaters (immersive AV, heightened fear) matches industry and survey evidence: audiences cite price barriers and the premium sensory experience as decisive factors for cinema attendance, yet still default to the convenience of the couch for routine viewing (InsightTrendsWorld, 2025; TVREV, 2025). The finding that social experience is relatively weak as a motivator (14.5%) suggests a cultural tilt toward individualized, controlled media environments—even for fear-based genres—while preserving the theater as an occasional venue for peak sensory episodes (InsightTrendsWorld, 2025; Ho et al., 2024).

A near-consensus that sound enhances immersion (87.1%, with 64.5% strongly agreeing) is consistent with theory and empirical modeling of how audio shapes moment-to-moment affect in horror (Lopes et al., 2017; Gong & Zhang, 2021). Yet the relatively modest rates of frequent physical reactions (27.4%) and high proportion of low sensitivity to sudden loud noises (74.1%) may indicate habituation to conventional shock tactics among today's viewers, supporting arguments that effective fear increasingly relies on layered soundscapes and narrative tension rather than sheer loudness (Martin, 2019; Shehan, n.d.). For practitioners, this implies prioritizing sophisticated acoustic dramaturgy (e.g., dynamic contrast, spatialization, motif development) and integrating sound with story beats to sustain engagement across both home and theatrical contexts (Baker et al., 2023; Gong & Zhang, 2021).

5. Conclusion

This study provides meaningful insights into Generation Z's preferences and behaviors when engaging in horror films, with a particular emphasis on the role of sound in shaping their viewing experiences. The findings indicate a strong preference for home-based viewing over traditional theater attendance. This trend is primarily influenced by factors such as convenience, affordability, and the flexibility to multitask during media consumption. However, theaters continue to hold relevance for a significant portion of respondents who value the immersive qualities of a large screen and high-fidelity sound environment. Sound design emerged as a central element in the horror viewing experience, significantly contributing to immersion, emotional intensity, and fear generation. While respondents consistently acknowledged the importance of sound, opinions differed regarding its impact across platforms. Theatrical environments were widely recognized as offering a superior sound experience. Nonetheless, the increasing availability of advanced personal audio technologies, such as noise-cancelling headphones and external speakers, has enhanced the home viewing experience, reducing the sensory gap between the two settings. In terms of specific sound elements, jump scares and ambient background music were identified as the most effective in provoking fear responses. Additionally, subtler elements such as character voices and silence were noted for their ability to build suspense and psychological tension. These findings underscore the importance of optimizing sound design not only for cinema but also for digital platforms, ensuring that the horror genre retains its emotional impact regardless of the medium. The study highlights the evolving dynamics of horror film consumption among Generation Z, shaped by technological developments and changing media habits. For filmmakers, sound designers, and content platforms, these results suggest a need to create adaptable, high-quality auditory experiences that cater to diverse viewing contexts. By combining strong narrative structures with immersive soundscapes, creators can effectively meet the expectations of a generation that prioritizes both convenience and sensory engagement in their cinematic experiences.

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Micro-credentialling in University Education: A Conceptualization and Operationalization

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Abstract

This conceptual paper examines micro-credentialling as an emerging strategy in university education, focusing on its role in enhancing employability, flexibility, and labour-market responsiveness. Micro-credentials are generally known as short, competency-based learning units that certify specific skills through authentic assessment and transparent evidence. The study proposes three core dimensions, namely skill signalling, relevance, and stackabilit for the purspoe of explaining their educational value. Contextual implications for Sri Lanka highlight the potential to widen participation, support upskilling, and strengthen university–industry collaboration. The paper outlines managerial considerations, governance requirements, and avenues for future research, offering a foundation for systematic empirical exploration.

Keywords: *Employability, Higher education, Micro-credentialling, Skill signaling, Stackability,*

1. Introduction

Within the higher-education sector with special focus on university education, currently extensive attention is give to micro-credentialing as a result of the rapid changes in the labour market, it has become a mandatory factor to demonstrate workforce relevance and updated knowledge. Traditional university education being within the boundaries of fixed modular learning, has intensified the call for micro-credentials, which are responding to the evolving skill demand and prompts for more flexible and timely skills and knowledge (Narayanaswamy *et al.*, 2024a) Micro-credentials are commonly known as short, competency-based certifications issued upon assessed learning and they focus on specific skills or knowledge which are either stand-alone or expansions of the broader aspects of knowledge and contribute to broadening of qualifications of learners ((Moodie and Wheelahan, 2021a; Martín-Gilete and Blanco-García, 2024)). In terms of within university contexts, these micro-credentials consist of digital badges, micro-masters, nano-degrees, short industry certifications and massive open online courses (MOOCs) which serve the purpose of validating the relevant competencies (Moodie and Wheelahan, 2021a; Ahsan *et al.*, 2023) and nowadays majority of the university students prefer these micro-credentials in order to complete their profiles with certain high demand skills (Narayanaswamy *et al.*, 2024b). Not only that but also, as micro-credentials are known for flexibility, stackability, lower cost, shorter completion time, and direct alignment with industry needs, which makes them further likable for the university students and these in particular supports them to showcase relevant competencies, differentiate themselves in competitive labour markets, and adapt to shifting career trajectories (Kiiskilä, Kukkonen and Pirkkalainen, 2023). Some of these micro-credential offering platforms offer personalized learning experiences, opportunities for rapid reskilling, and verifiable digital evidence of achievement which makes the university students more attracted to them as this help to strengthen their employability profiles (Wihendro *et al.*, 2024). With this background, it is safe to confirm the gaining popularity of micro-credentialling across university education systems as they quickly adopt and respond to the rapid changes in the labour market and the micro-credentialling platforms are strengthening the graduate employability (Varadarajan, Koh and Daniel, 2023). When focusing on the Asian context, in order to enhance upskilling and reskilling, quality assurance bodies often encourage the university students to engage in flexible short learning programmes (Hou et al., 2025). However within the boundaries of Sri Lanka, pressures in similar gravity and extent are intensifying the workforce competitiveness, and university outputs are in dire need of aligning with the industry expectations (Wihendro *et al.*, 2024). This study in particular is important contextually and helps to support the process of recognition and standardization of evolving university education systems. However, based on the previous research, the following findings are either based on the Sri Lankan context or generally applicable to the Sri Lankan scenario.

1. Universally, micro-credentialling is known to be very beneficial to the university students to compete in the evolving labour markets backed by short termed, competency-based and industry aligned capabilities (Varadarajan, Koh and Daniel, 2023).

2. Students place much value upon the flexible and personalized pathways offered by the self-paced support systems of micro-credentials which align with the increasing student demand for flexible skill development (Narayanaswamy et al., 2024b).

3. Signalling value can be enhanced by the verifiable digital credentials and this gives the students more benefits with the evidence of achievements which are quite supportive of strengthening recruitment profiles (Kiiskilä, Kukkonen and Pirkkalainen, 2023).

4. Despite of all advantages, due to unclear quality assurance frameworks and inconsistent definitions, there are challenges with standardization and this imposes student confidence and employer recognition issues within the Sri Lankan context (Wihendro et al., 2024; Hou et al., 2025).

5. Students view micro-credentials as add-ons or complementing units for the degree programmes and they do not comprehend them as replacements for degrees, thereby the integration of micro-credentials in the Sri Lankan university systems have been feasible (Selvaratnam and Sankey, 2021a; Gamage and Dehideniya, 2025)

Based on the range of literature reviewed for this study, an increase in pressure is noticed on the universities to align their educational programmes with the evolving skill demands of the employer expectations (Thi Ngoc Ha et al., 2023). However, a universally accepted definition is not available and stakeholder confusion is abundant due to the inconsistent credit structures which limits the potential of the micro-credentials (Wihendro et al., 2024). Most of the existing studies are systematic reviews and empirical evidence is lacking in the specific discipline (Ahsan et al., 2023), and especially in the Sri Lankan context, proper groundwork is needed prior to further studying this construct which is evidence for literature gap. When considering the resource-constrained higher education sector in Sri Lanka, comprehension of the micro-credentialing is yet under-researched ((Wei and Chou, 2020; D. Rosario, 2025) and this paper aims to propose a Sri Lankan contextual conceptualization to bridge the existing contextual gap. The conceptualization is supposed to integrate competency-based, stackable design with rigorous quality frameworks and university–industry collaboration, aiming to enable inclusive talent development, credible signaling, and sustainable ecosystem alignment, while avoiding the pitfalls of ad-hoc, market-driven credential proliferation.

1.1. Purpose Statement

This conceptual paper aims to provide a holistic view of micro-credentialling in the university education system in the context of Sri Lanka. Also the study lays the foundation for future systematic empirical studies on micro-credentialling in university education. The objectives of the study are to,

1. Canvas a working definition of micro-credentialling

2. Identify categories and typologies of micro-credentials

3. Operationalization of the construct

4. Relevance and importance of micro-credentialling in Sri Lanka

1.2. Research questions

The study will be aimed at addressing the following research questions,

1. How do university students in Sri Lanka perceive the dimensions of micro-credentialling (skill signalling, relevance, and stackability), and do these dimensions form a valid and reliable measurement model?

2. To what extent does micro-credentialling influence perceived graduate employability among Sri Lankan university students?

3. How do employers in Sri Lanka interpret and evaluate micro-credentials as signals of job-relevant competencies?

4. How does the integration of stackable micro-credentials within degree programmes influence students' academic progression and lifelong learning intentions?

2. Method – Sources of Data

This study follows the conceptualization methodology followed by Iddagoda and Opatha (2017) by initializing the study with a desk study using a large number of research publications from 2005 to 2025 covering 20 years of work. The study is limited to the given period as micro-credentialling is a relatively new topic emerged from mid 2000s and the system accelerated post 2018 along with the system frameworks and pandemic era adoption (Brown et al., 2021; Educational Sciences, 2024; Wheelahan and Moodie, 2022). The articles were extracted from Taylor and Francis Online, Sage Publications, Springerlink, Emerald and Wiley Online Library adopting the style by Iddagoda and Opatha (2017).

3. Literature Review

3.1. Introduction to Micro-credentialling

Micro-credentialing in terms of the education system of universities has been identified as an important factors and it simply refers to the design, delivery, assessment, and recognition of short, competency-based learning units that certify specific, verifiable skills and knowledge and these often can be linked with digital badges or in certain cases portable records which are aligned with the relevant quality and credit recognition frameworks (Wheelahan and Moodie, 2022; Chakroun and Keevy, 2018). When it comes to the early identification of micro-credentials, they only considered the generic short-courses, whereas the later versions of the terminology recognizes the explicit learning outcomes, authentic assessment of competence, and transparency of metadata describing level, workload, issuer, and evidence, which basically covers up the limitations of the traditional transcripts and brings in granular capabilities of the learners which helps them with the employment and signals for employer attention based on competency based achievements (Brown *et al.*, 2021b)

Further elaborating on the term 'micro-credentialling', there are major variations in pinning a definition for the construct and under different jurisdictions, it may reflect various implications. However the modern points of view consider micro-credentials as stackable building blocks that can "stand alone" for targeted upskilling or "stack into" larger awards when mapped to qualification frameworks, credit systems, and institutional policies on recognition of prior learning ((Alenezi, Akour and Alfawzan, 2024; Gamage and Dehideniya, 2025)). Moreover, the better clarity is given when it comes to the proper rationale of micro-credentalling becomes two-fold. First it targets to improve the relevance and responsiveness of universities to rapidly evolving labour-market needs by enabling just-in-time, flexible learning pathways and then second, it aims to widen participation through modular access points that reduce time and cost barriers for diverse learners, including working adults (Brown *et al.*, 2021a; Ahsan *et al.*, 2023; Thi Ngoc Ha *et al.*, 2023b)

However, based on the field research or empirical studies, it has come to the attention of the stakeholders that micro-credentialling can actually strengthen the perceived employability via human capital factors and provide more transparent and clearer signaling when it comes to the job-specific skills and this also draws attention on the fact that benefits depend on credible assessment, employer recognition, and alignment with industry-validated standards(Wei and Chou, 2020; Moodie and Wheelahan, 2021b; Zou *et al.*, 2024). Simultaneously some authors elaborates on the fragmentation, variable quality, and credential inflation if micro-credentials proliferate without robust assurance, coherent typologies, and interoperable recognition mechanisms across institutions and borders (Moodie and Wheelahan, 2021a, 2021c; Wheelahan and Moodie, 2022). Thereby, the modern frameworks not only focus on the competency-based design, transparent outcomes and rubrics and workload but also emphasize on the

factors such as level equivalence, external moderation, and machine-readable metadata to support portability and trust at scale (Selvaratnam and Sankey, 2020).

Main aim of micro-credentialling is to build a central body integrating university- industry collaborations therefore advisory boards, co-design, and work-integrated assessment can ensure that content and verification reflect real occupational standards while preserving academic integrity and equity in access (Baruch, Bell and Gray, 2005; Jackson and Chapman, 2012; Brown *et al.*, 2021a). When considering the context of Sri Lanka, this collaboration is widely present, yet it is mostly characterized by the resource constraints, massification pressures, and urgent employability goals (Gamage and Dehideniya, 2025; Ngoc Ha, Van Dyke and Spittle, 2025). When it comes to such scenarios micro-credentialling provides a safe ground for the university students to provide agile, stackable pathways that complement degrees, scaffold lifelong learning, and strengthen university–industry linkages. Though with this stable promise, realizing these benefits requires a context-sensitive conceptualization that integrates design principles with governance, quality assurance, and recognition policies to avoid ad-hoc, market-driven proliferation (Wheelahan and Moodie, 2022; Pal'ova and Zoricakova, 2025)Therefore in a nutshell, micro-credentialling can be identified as a structured credential ecology as at now and it can make learning more visible, portable, and responsive. If the universities embed rigorous standards, interoperable recognition, and stakeholder alignment from the outset these are supposed to create massive opportunities and drastic alterations in the field of higher-education (Brown et al., 2021a; Hou et al., 2025).

Table 1: Definitions of Micro-credentialling

Author	Year	Definition	Comments
Wheelahan and Moodie	2021	Micro-credentials are short, outcomes-based credentials that certify specific competencies and should be embedded in coherent credentialing systems to avoid fragmentation and skills fetishism.	Elaborates the competency and skill development and certification of credentials
Hou et al	2025	Digital credentials that record evidence of learning, with transparent metadata on issuer, outcomes, level and assessment to enable cross-border recognition.	More focused on the evidence based learning, portable evidence and recognition of the micro-credentials

Hart, Stewart and Jimerson	2011	Stackable, flexible credentials that certify granular skills and can stand alone or contribute to larger awards within an emerging "credential ecology" for lifelong learning.	This discusses how the micro-credentials adds more value to the degree programme as well as bring out synergetic outcome when stacked together with traditional learning
Barush, Bell and Gray	2005	Institution–industry co-designed credentials that certify job-relevant capabilities and empower learners and universities through shorter forms of learning.	Discusses the facts on job-relevant course designs where up-skilling and re-skilling are facilitated

Source: Compiled by author

Through the summarized information with regards to micro-credentialling based on previous research, the author narrowed down three main components which makes up the full term of micro-credentialling

1. Skill signaling – discusses the evidence based practice by micro-credentials and the competency based certifications to attract employers

2. Relevance – task relevance, skill development through up-skilling or re-skilling to create job relevance

3. Stackability – capacity to add more value through synergizing with the degree programme and bringing in more recognition

When considering all relevant factors, micro-credentials can be best known through the three interlocking components that determine their value in higher education and labour markets. Starting off with skill signalling which covers how the competency-based assessment and transparent evidence make capabilities visible to employers. If the micro-credentials are well designed and they can publish explicit outcomes. As a result of it these outcomes including issuer/level/workload metadata, which together strengthen the credibility and portability of the signal across contexts (Baruch, Bell and Gray, 2005; Thi Ngoc Ha *et al.*, 2023b). Therefore the skill signalling component can be backed by strong literature and it is directly linked to enhance perceived employability because it translates learning into verifiable, job-relevant competences that employers can readily interpret, addressing the limitations of opaque transcripts (Brown *et al.*, 2021a; Zou *et al.*, 2024). Then comes the relevance which is all about aligning the tasks and developing the skills to match the job market and shape the learner through up-skilling and re-skilling to secure better positions when it comes to jobs. These are usually achieved by

concise, just-in-time content and authentic tasks embedded in micro-credentials and if the assessments are valid and properly moderated they support the job and create long-lasting learning pathways(Moodie and Wheelahan, 2021b; HALIM, Luaran and Jill, 2023; Zhang and Alasmari, 2025). Relevance is maintained through systematic engagement with industry and the publication of outcomes that map to current occupational standards, ensuring that attainment reflects contemporary workplace practice rather than abstract knowledge alone (MacCallum and Brown, 2022; Education Sciences, 2024). Last but not least, the third component is stackability which means the structured pathways that let learners combine multiple micro-credentials and, where appropriate, receive credit recognition toward larger awards which is more like a synergizing effect. Through proper completion of academic levels, workload and credit equivalence, micro-credentials can complement degrees, enrich graduate profiles with granular capabilities, and gain wider recognition within qualification frameworks (Hart, Stewart and Jimerson, 2011b; Brown *et al.*, 2021a; Pal'ova and Zoricakova, 2025)Altogether with all three components, redible signalling, authentic relevance, and recognised stackability, micro-credentials can become portable proofs of competence which clearly elevates the profile values of the university students once they enter the job market (Jackson and Chapman, 2012; Moodie and Wheelahan, 2021b; Wheelahan and Moodie, 2022).

3.2. Micro-credentialling – Working Definition

Micro-credentialling is the design, assessment, issuance, and recognition of short, competency-based learning units that certify clearly defined skills through transparent evidence and quality-assured processes, published with machine-readable metadata on outcomes, level, workload and issuer to support employer signalling, portability, and stackable pathways that complement formal degrees and enable targeted upskilling and reskilling.

3.3. Categories of Micro-Credential Practice

3.3.1. Foundational/stand-alone

Through foundational micro-credentials, they certify a single, discrete competency with clearly published learning outcomes, assessment criteria, workload, and level, functioning as targeted upskilling instruments and precise labour-market signals for narrow role(Selvaratnam and Sankey, 2020; Santally *et al.*, 2024a; D. Rosario, 2025). Their value lies in evidencing one capability to a valid standard without requiring program-level commitment, which supports rapid talent deployment and recognition in specific tasks or technologies (Sharma *et al.*, 2024; Zhang and Alasmari, 2025)Effective stand-alone designs include authentic assessment artefacts and machine-readable metadata so

employers and credential evaluators can verify attainment quickly, thereby improving trust and portability across contexts (Pirkkalainen et al., 2023; Alenezi, Akour and Alfawzan, 2024).

3.3.2. Clustered/skill bundle

These means the micro-credentials assemble related competencies into role-aligned bundles. Some can come in the form of a "learning designer" or "data analyst" capability set(Alenezi, Akour and Alfawzan, 2024). These are usually co-designed with relevance to the industries to cover the currency and compatibility with the jobs(Pirkkalainen *et al.*, 2023). When it comes to bundling, it helps to get cumulative evidence of practice across tasks,(Ngoc Ha, Van Dyke and Spittle, 2025) enabling learners to demonstrate breadth and depth beyond a single skill, while preserving agility and short completion cycles(Ngoc Ha, Van Dyke and Spittle, 2025). High quality clusters articulate internal progression, shared assessment rubrics, and mapped performance levels, which help employers read the whole capability profile and strengthen recognition in recruitment and internal mobility(Selvaratnam and Sankey, 2021b).

3.3.3. Stackable/credit bearing

Stackable micro-credentials are mapped to qualification levels and credit values, with explicit articulation into certificates, diplomas, or degrees under institutional policy and recognition of prior learning (RPL)(Ahsan *et al.*, 2023). Stackability allows learners to accumulate credit over time, converting targeted upskilling into formal progression while retaining labour-market responsiveness(Ali *et al.*, 2024; Wihendro *et al.*, 2024). Critical design features include workload equivalence, moderation, and documented pathways that specify which combinations stack and how credit transfers, thereby preventing ad-hoc accumulation and ensuring academic integrity and comparability across programs(Ma and Bennett, 2021).

3.3.4. Regulated/assured

Regulated micro-credentials mean that they operate under the explicit quality assurance (QA) and they have proper frameworks(Ma and Bennett, 2021; Ali *et al.*, 2024). These cover the assessment validity, issuer accountability, metadata standards, and external moderation, thereby they secure legitimacy, portability, and employer trust. In diverse systems, clarity on regulatory status and interoperable standards mitigates fragmentation, prevents credential inflation, and supports cross-institution and cross-border recognition(Moodie and Wheelahan, 2021a; Wheelahan and Moodie, 2022). Effective assurance models couple institutional QA with sector or national guidance, linking digital credential infrastructure to governance so learners' achievements remain verifiable and durable as they stack or transition across institutions and labour markets(Hart, Stewart and Jimerson, 2011a).

3.4. Operationalization of the Variable of Micro-credentialling

3.4.1. Dimensions of micro-credentialling

Micro-credentialling is conceptualized via basic constituents of the three dimensions: skill signaling, relevance and stackability.

Dimension 1: Skill Signaling

Skill signaling describes how a micro-credential communicates verified competence to external audiences through their explicit learning outcomes, authentic assessment artefacts, and issuer/level/workload metadata(Santally *et al.*, 2024b). Once these are transferred to employers can readily interpret for hiring and advancement. Effective signaling relies on verifiable digital credentials that preserve evidence of performance and provide machine-readable details for trust and portability across institutions and labour markets(Wheelahan and Moodie, 2022). These can be measured through the statements which discusses the facts 1) certificates/digital badges and 2) transferability and universal acceptance of the skill signaling.

Table 2: Elements and Statements of the Dimension – Skill Signaling

Element	Statement
Competency certification	I believe micro-credentials (certificates/digital badges) are a good signal to certify potential employers about the specific skills a candidate possesses.
Portable evidence	I believe micro-credentials (certificates/digital badges) are a good evidence for employees to be recognized for skills they have developed.

Dimension 2: Relevance

Relevance reflects the degree of task alignment and the suitability of microlearning-enabled micro-credentials for up- and reskilling (Hart, Stewart and Jimerson, 2011a, 2011b). This facilitates the transferring of day-to-day performance through concise, practice-centered activities and valid, job-embedded assessment. Once these micro-credentials are co-designed with industry, it keeps outcomes current and ensure short learning sequences provide just-in-time knowledge, feedback, and opportunities for application at work(Hou *et al.*, 2025). Statements 3) provision of knowledge for daily performances and 4) developing task relevant skill development and 5) significant focusses of microcrednetials to up and re skill, check the relevance of micro-credentials with regards to the job market.

Table 3: Elements and Statements of the Dimension – Relevance

Element	Statement
Job relevance	I trust microlearning lessons to provide information that learners need to perform their day-to-day tasks
Skill development suitability	I believe micro-credentialling can help me develop my skills to do a job
Upskilling and Re-skilling	I comprehend that micro-credentials micro-credentials hold significant value in showcasing competence in the essential skills required for upskilling and reskilling.

Dimension 3: Stackability

Stackability denotes formal mapping to qualification levels, workload, and credit so micro-credentials can complement degrees and articulate into larger awards via recognition-of-prior-learning and documented pathway rules under institutional quality assurance(Moodie and Wheelahan, 2021b; Thi Ngoc Ha *et al.*, 2023b). Clear stacking metadata, pathway guides, and moderation protect academic integrity and allow employers to read granular capabilities alongside formal qualifications for recruitment and internal mobility(Wei and Chou, 2020; Moodie and Wheelahan, 2021b). 6) Development of skills to complement a degree programme, and 7) adding value to a degree through micro-credentials, are the statements designed to assess the stackability component.

Table 4: Elements and Statements of the Dimension – Stackability

Element	Statement
Degree complementarity	I believe micro-credentials are not an alternative for a degree but they complement the degree programme.
Value addition	I think micro-credentials (certificates/digital badges) are a valuable addition to a degree or diploma, indicating the specific skills a candidate possesses.

Based on the Table 2,3 and 4, an instrument is developed to measure the construct of micro-credentialling. Figure 1, presents the relevant Dimensions (D) and Elements (E) which further refine the model.
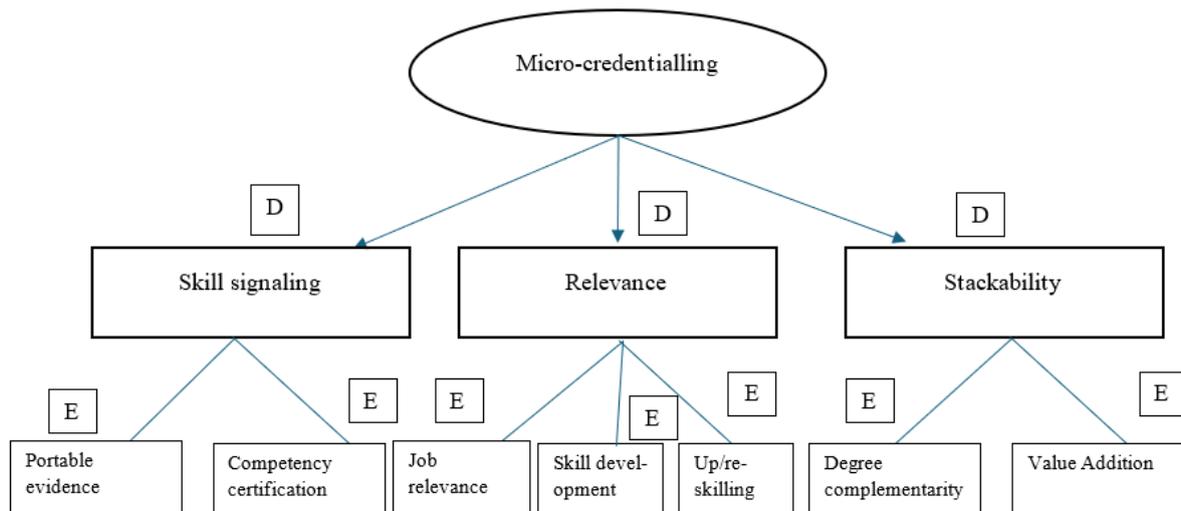
Figure 1: Dimensions and Elements of the Variable Micro-credentialling

Source: Author's creation

3.5. Relevance and importance of micro-credentialling in Sri Lanka

Micro-credentialling as understood by previous literature as a flexible system for designing, assessing, issuing and recognizing short, outcomes-based learning units that verify specific competencies and make them visible to learners, employers and institutions(Moodie and Wheelahan, 2021b; Thi Ngoc Ha *et al.*, 2023b). According to Brown et al., (2021b) micro-credentialling act as portable proofs of mastery linked to explicit outcomes, authentic assessments, workload and level information, rather than loose term 'short courses'. These basically function well in mature ecosystems and the learner based credit mappings allow learners to stack achievements toward larger awards (Baruch, Bell and Gray, 2005; Hart, Stewart and Jimerson, 2011b; Jackson and Chapman, 2012). When these elements align, micro-credentials become both a practical tool for rapid up- and reskilling and an architectural mechanism for modernizing how higher education partners with industry, assures quality, and widens participation.

Micro-credentials usually claims to make a precise claim about competence. When it comes to the learner, what the learner can do, in what context, to what standard can be personalized or chosen as choice (Selvaratnam and Sankey, 2020; D. Rosario, 2025). That clarity prevents conflation with informal participation certificates and avoids inflated claims that erode trust. A well-articulated definition also guides curriculum teams, examiners and registries in choosing appropriate assessment types, workload estimates, and level descriptors, not only that but also it helps external stakeholders understand exactly what is being certified. (Alenezi, Akour and Alfawzan, 2024; Sharma *et al.*, 2024).

Micro-credentialling anchors the policies that determine recognition within programs (Zou *et al.*, 2024), especially in terms of universities, a shared definition curbs duplication, supports inter-faculty collaboration, and provides the foundation for institution-wide quality assurance.

Micro-credentialling can be competency-based design, as in it must be built backward from performance. At this point they start with role-relevant tasks, break them into assessable competencies, and then design learning activities that allow practice, feedback and demonstration(Selvaratnam and Sankey, 2021b; HALIM, Luaran and Jill, 2023; Zou *et al.*, 2024; Gamage and Dehideniya, 2025). Microlearning is useful not just as "bite-sized" content for its own sake, but as a way to sequence deliberate practice and formative checks tightly around specific task demands(Pal'ova and Zoricakova, 2025). This keeps every hour learners invest aligned with a demonstrable skill, increases transfer to day-to-day work, and provides assessors with observable evidence. Critically, competency-based design means rubrics, exemplars and integrity protocols are non-negotiable; without them, the credential's claim about capability remains unverifiable.

High-trust micro-credentials preserve the artefacts that substantiate achievement and they code repositories, design portfolios, performance videos, workplace supervisor attestations, structured simulations with scoring guides(Ahsan *et al.*, 2023; Narayanaswamy *et al.*, 2024b). They also document who assessed what, against which criteria, at what level which is quite supportive of verifying performance and assuring credibility(Desmarchelier and Cary, 2022; Kiiskilä, Kukkonen and Pirkkalainen, 2023). This evidence trail transforms a digital badge or certificate from a mere symbol into a verifier-friendly record (Desmarchelier and Cary, 2022). If a course is done well, it allows employers to sample the learner's work product quickly and enables external examiners to re-mark or moderate when necessary(Brown *et al.*, 2021a; Wheelahan and Moodie, 2022). It is also central to fairness: clear rubrics and exemplars improve transparency for candidates and reduce variability between assessors.

Micro-credentialing is known for supporting signaling and portability. Micro-credentials must communicate in a language employers and credential evaluators can read (Hart, Stewart and Jimerson, 2011a; Brown *et al.*, 2021a; Moodie and Wheelahan, 2021a; Wheelahan and Moodie, 2022). That implies machine-readable metadata describing issuer, outcomes, assessment, workload, level and any credit value, linked where possible to occupational standards(Hart, Stewart and Jimerson, 2011a). Portability is strengthened when that metadata follows an agreed schema and when issuers publish verification endpoints. In practical terms, the signal becomes stronger when programs share a typology and naming conventions across the institution or system, so that the same label implies the same standard(Maina *et al.*, 2022; Dennis *et al.*, 2025). Without shared signaling, credentials proliferate but remain opaque, dampening employer uptake.

When it comes to stackability and pathways, micro-credentials gain medium-term value when they are mapped to qualification-framework levels, workload equivalences and program rules, making it clear which combinations "stack" into a certificate, diploma or degree credit (Martín-Gilete and Blanco-García, 2024; Dennis *et al.*, 2025). This prevents a scatter of standalone units and instead creates navigable routes for learners and this is from immediate job-ready skill to formal progression(Brown *et al.*, 2021a). For universities, stackability incentivises academic departments to collaborate on micro-credential "ladders," reduces duplication of assessment effort, and clarifies recognition-of-prior-learning decisions. For learners, it lowers opportunity cost: time spent upskilling today can count toward an award tomorrow.

Micro-credentialling further can establish assurance and legitimacy through robust extensions of existing academic QA rather than bypassing it(Ali *et al.*, 2024). Key elements include externality (moderation or external examiners), integrity checks (identity, proctoring where appropriate, plagiarism detection calibrated to task), grade calibration, and continuous review of outcomes against changing occupational standards(Hart, Stewart and Jimerson, 2011a; Moodie and Wheelahan, 2021a). Governance should specify approval gates, renewal cycles, and retirement criteria, so credentials remain current and do not accumulate as stale catalogue items(Maina *et al.*, 2022). QA also covers learner support and accessibility which is actually ensuring micro-credentials work for busy adults with uneven connectivity and varied prior knowledge.

In terms of the ecosystem governance and co-design, micro-credentialling works best when universities, employers, professional bodies and regulators align on typologies, standards and recognition rules(Selvaratnam and Sankey, 2021a; Varadarajan, Koh and Daniel, 2023; Martín-Gilete and Blanco-García, 2024). Co-design with industry informs task selection, scenario realism and endorsement pathways; partnerships with credentialing platforms ensure verification and interoperability; and policy alignment enables cross-institution recognition(Lyu, 2023; Wihendro *et al.*, 2024; Pal'ova and Zoricakova, 2025). Clear roles prevent market fragmentation: universities safeguard academic standards, employers inform relevance and validation, and regulators set the conditions for portability and consumer protection.

When it comes to measurement and improvement, the institutions should track demand signals, completion and assessment validity metrics, learner satisfaction, employer endorsement, and the rate at which micro-credentials convert to credit or internal advancement(Pal'ova and Zoricakova, 2025). These data feed renewal decisions and help rebalance portfolios toward areas of sustained workforce need(Lyu, 2023). They also surface equity gaps to verify who benefits, who is left out while also targeting and informing focused outreach or support.

Micro-credentialling maps directly onto Sri Lanka's strategic needs across three fronts which are employability, widening participation, and system agility(Gamage and Dehideniya, 2025).

Employability and productivity is the key point and when it comes to especially the employers, of SMEs and service sectors, they need verifiable, job-ready capabilities in areas like ICT support, data handling, digital marketing, supply-chain operations, hospitality operations and healthcare administration(Baruch, Bell and Gray, 2005; Moodie and Wheelahan, 2021b; Santally *et al.*, 2024a). Micro-credentials allow universities to align learning to these roles quickly, publish exactly what graduates can do, and provide employers with evidence they can scan and trust(Zhang and Alasmari, 2025). This tightens the skills pipeline, reduces hiring friction, and supports on-the-job upskilling without pulling employees out of work for long periods.

Widening participation and equity is one of main requirements of Sri Lankan university educators and learners. Many Sri Lankan learners balance study with work and family responsibilities (Ahsan *et al.*, 2023; Hou *et al.*, 2025). Modular offerings with clear progression reduce time and cost barriers, letting learners advance in manageable increments. When micro-credentials are credit-bearing and mapped to degree pathways, they help first-generation and working-adult students accumulate recognised learning without committing upfront to long programs (Moodie and Wheelahan, 2021b). This can be transformative for regional and under-served communities, where access and affordability are persistent challenges.

A coordinated micro-credential framework can ensure system agility and international alignment and it enables universities to respond to emerging technologies and sector shifts faster than traditional program-approval cycles allow(Wei and Chou, 2020; Brown *et al.*, 2021b; Moodie and Wheelahan, 2021b). Publishing level, workload and credit equivalences in a shared typology also positions Sri Lankan institutions to interoperate with regional partners, supporting student mobility and recognition(Gamage and Dehideniya, 2025). As more systems adopt common metadata and QA conventions, Sri Lanka can plug into cross-border initiatives while retaining local relevance.

Establishing a national typology and shared definitions is again a core requirement within the country's context. Agree on what constitutes a micro-credential, required metadata, and minimal QA expectations. Publish naming conventions and level/workload anchors to standardize signaling (Moodie and Wheelahan, 2021b; Desmarchelier and Cary, 2022). Building competency libraries tied to priority roles and convening sector panels to identify critical tasks and performance contexts, which can then develop competency statements and rubrics that universities can reuse across micro-credentials, is a giant possible leap and can upend the higher education sector(Baruch, Bell and Gray, 2005; Hart, Stewart and Jimerson, 2011b; Selvaratnam and Sankey, 2020). Investing in assessment and evidence infrastructure while enabling easy capture, storage and verification of artefacts can provide rubric management and moderation workflows(Santally *et al.*, 2024a). It is better to support learner e-portfolios that integrate with digital credentialing and make stackability real, not rhetorical. Not only that but also by mapping micro-credentials to credit within programs and publishing pathway diagrams to implement recognition-of-prior-learning policies that specify limits, with residency requirements,

and recency rules can further establish the transparency and validity of the system(Selvaratnam and Sankey, 2020).

Within the Sri Lankan context, it is required to have external moderation, identity assurance aligned to task stakes, and cycle-based review of outcomes against labour-market changes(Gamage and Dehideniya, 2025). When the credentials are no longer meet demand or standards they should be redesigned and the developers are to partner for relevance and scale(Moodie and Wheelahan, 2021b; Thi Ngoc Ha *et al.*, 2023b). By formalizing university–industry advisory structures, Sri Lankan economy actually facilitate the co-development of micro-credential clusters in terms of priority sectors, and pilot cross-institution credit recognition to avoid duplication and accelerate learner progression(Selvaratnam and Sankey, 2020; D. Rosario, 2025; Zhang and Alasmari, 2025).

In summary, micro-credentialling is not a collection of short courses; it is a standards-driven system for making learning visible, verifiable and valuable across education and work. When designed around clear competence, assessed through authentic evidence, signaled with shared metadata, stacked into recognized pathways, and governed through robust QA and co-design, micro-credentials can help Sri Lanka raise employability, expand opportunity, and modernize higher education with speed and integrity.

4. Implications of the Study

4.1. Theoretical Implications

This conceptual study discusses the theoretical understanding by clarifying the structure, boundaries, and functioning of micro-credentialling within university education. Despite of the ambiguity imposed by the existing literature with regards to definitions, typologies, and value claims, this conceptualization delineate the dimensions kill signaling, relevance, and stackability and validates an instrument to fill certain gaps in literature. The study provides a clear understating on how to make best use of mico-credentialling while maintaining academic integrity. he synthesis further integrates competency-based design, metadata transparency, and recognition-of-prior-learning into a unified ecosystem, addressing theoretical gaps in how short-form credentials can articulate into larger qualification frameworks. In addition the conceptualization redefines micro-credentialling as a standards-driven credential ecology rather than a collection of fragmented short courses. Finally, the proposed conceptualization responds to context-sensitive needs in resource-constrained systems such as Sri Lanka, where skill agility, affordability, and employability are critical.

4.2. Managerial Implications

For university administrators, the conceptualization offered in this study provides a proper, theort backed practical guidance for designing micro-credential portfolios that align with labour-market needs while preserving academic standards. By articulating explicit learning outcomes, transparent assessment rubrics, and issuer/level/workload metadata, institutions can strengthen employer trust and the portability of student achievements. For stakeholders such as, lecturers, micro-credentials offer opportunities to embed authentic work products as assessment artefacts, increasing transparency and fairness and when it comes to the system level, governance structures can coordinate employer endorsement and cross-institution portability, strengthening national workforce pipelines.

4.3. Future Research Implications

This conceptualization sheds light on several promising pathways for future empirical inquiry. First, longitudinal studies are needed to evaluate the long-term impact of micro-credentials on employment outcomes, internal mobility, and wage progression, addressing current evidence limitations. Second, comparative research across disciplines may reveal differing patterns of relevance and stackability, particularly between technical and service-oriented domains. Third, employer perception studies could examine how signaling strength varies based on metadata granularity, assessment artefacts, and issuer reputation. Last but not least, equity-focused research is needed to assess participation barriers for working adults, regional learners, and first-generation students. Such investigations would inform outreach and support strategies.

5. Conclusion

Micro-credentialling is known for providing universities quite a flexible and competency-based approach to strengthening graduate employability, supporting lifelong learning, and responding swiftly to labour-market demands. By emphasizing skill signaling, relevance, and stackability, these short learning units can complement traditional degrees and provide verifiable evidence of capability. When supported by quality assurance, transparent metadata, and industry collaboration, micro-credentials enhance credibility and portability. Within the Sri Lankan context, they offer scalable pathways that reduce cost and time barriers while widening participation. As higher education systems evolve, micro-credentialling represents a strategic mechanism for modernizing curricula, improving workforce readiness, and increasing learner agility.

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An Empirical Analysis of Factors Affecting the Perceived Choice of Accounting Career Path Among Accounting and Finance Undergraduates in Non-State Universities in Colombo District, Sri Lanka

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Abstract

Accounting remains a critical pillar of business and economic development, offering diverse professional opportunities. In Sri Lanka's expanding higher education sector, particularly within non-state universities, accounting and finance degrees are increasingly popular. However, many students do not ultimately pursue careers in this field, raising questions about the factors shaping their career intentions. While prior studies have primarily examined state university students, little is known about the determinants influencing undergraduates in non-state institutions. This study addresses this gap by investigating the factors affecting the perceived choice of accounting career paths among accounting and finance undergraduates in the Colombo District. Guided by Social Cognitive Career Theory, the study adopted a quantitative design with a positivist philosophy and deductive approach. Five hypotheses were developed based on existing literature, focusing on intrinsic motivation, extrinsic motivation, third-party influence, career exposure, and social values. Data was collected using a structured questionnaire that employed a five-point Likert scale. Using Roscoe's (1975) guideline, 172 undergraduates were selected via convenience sampling. The data were analysed using multiple linear regression in SPSS. The findings revealed that intrinsic motivation, career exposure, and social values significantly influenced undergraduates' perceived accounting career path choices. In contrast, extrinsic motivation and third-party influence were not significant predictors. These results highlight the dominant role of internal drivers and contextual factors over external rewards and social pressures in shaping students' intentions. The study is significant in extending existing literature by focusing on non-state undergraduates, an underexplored segment in Sri Lanka. Practically, the results provide valuable insights for policymakers, educators, and professional accounting bodies in designing interventions, career guidance, and exposure programs that align with students' motivations and values. The study contributes theoretically by extending Social Cognitive Career Theory within the context of non-state higher education in a developing economy, offering empirical evidence on how cognitive and contextual factors shape career perceptions. By identifying the critical factors that shape career intentions, the study contributes to enhancing the sustainability of the accounting profession in Sri Lanka.

1. Introduction

Accounting is more than numbers; it is the language of business and the cornerstone of financial integrity and economic development. In an era where transparency, accountability, and informed decision-making are critical to the success of both the public and private sectors, the role of accounting has become increasingly vital. As this field of accounting continues to evolve, it offers a range of meaningful career opportunities for aspiring professionals. According to Ng et al. (2017), accounting students may choose to pursue careers in specialized areas such as financial accounting, management accounting, taxation, auditing and finance, reinforcing the notion that accounting provides a diverse array of fulfilling career paths.

Despite its importance, several studies have found that personal, institutional and societal factors shape accounting students' career preferences. Students are influenced not only by intrinsic interest in the subject but also by extrinsic motivators such as anticipated salary, career progression, and job security (Raharja & Liany, 2020; Joshi, 2022). Social values such as family and peer influence and the visibility of role models also contribute significantly to shaping career decisions (Samsuri et al., 2016; Wen et al., 2018). In Sri Lanka, where the economy continues to adjust to structural changes and recover from post-conflict and pandemic-related disruptions, accounting has emerged as a respected profession linked to upward social mobility and global employment potential (Nimsara & Gunasekara, 2022). The expanding business environment, tax regulations and emphasis on accountability have created a demand for competent accountants (Joshi, 2022). Students also consider employer reputation, societal perceptions, advice from lecturers and work exposure (Nimsara & Gunasekara, 2022; Shanthrakumar, 2020). However, most studies in Sri Lanka have focused on state universities, leaving the career choice decisions of students in non-state institutions largely unknown.

Despite pursuing higher education in accounting and finance, many graduates do not enter the accounting profession. A 2020 survey by the Association of Chartered Certified Accountants (ACCA) revealed that 34% of Sri Lankan accounting graduates were employed in non-accounting sectors such as Business Process Outsourcing, human resources, marketing and information technology. This shift has 2 been partly driven by higher salaries and better work-life balance offered by other sectors. The Sri Lanka Bureau of Foreign Employment (2022) also noted that many accounting and finance graduates seek overseas employment in non-accounting roles. Furthermore, the increasing demand for professionals in IT and digital marketing has attracted graduates away from accounting-related

professions. These trends raise concerns about what influences undergraduates' career intentions, especially as choices are often shaped before graduation.

With nineteen state universities under the University Grants Commission (UGC) and a rapidly growing number of non-state higher education institutions offering recognized accounting and finance degrees, Sri Lanka is producing an increasing pool of graduates. However, a significant portion of them do not pursue accounting careers. These continuous patterns highlight a pressing concern regarding the career preferences of accounting and finance graduates. Therefore, it is important to investigate the factors affecting the perceived choice of career path at the undergraduate stage, as this is the point where students make decisions that shape their future careers.

This study addresses the research question: what are the factors affecting the perceived choice of accounting career path among accounting and finance undergraduates in non-state universities in the Colombo district, Sri Lanka? Specifically, it seeks to examine the relationship between intrinsic motivation, extrinsic motivation, third-party influence, career exposure, and social values with the perceived choice of accounting career paths. Accordingly, the main objective is to examine the factors influencing career choice among non-state university undergraduates in Colombo. The specific objectives are to analyze how intrinsic and extrinsic motivation, the influence of third parties, career exposure and social values affect these decisions. By addressing these aims, the study offers critical insights into the career intentions of non-state undergraduate students, thereby filling a gap in Sri Lankan research. Theoretically, the study extends Social Cognitive Career Theory (SCCT) by empirically examining how contextual and value-based factors operate within a developing country setting, particularly among students in non-state universities. While SCCT has been extensively tested in Western and state university settings, there is limited evidence on its relevance to non-state universities in emerging economies. By integrating intrinsic motivation, social values, and career exposure within the SCCT framework, this study contributes to refining the understanding of how environmental and cognitive factors interact in shaping perceived career choice in accounting. The findings also offer valuable implications for educators, policymakers, and the accounting profession.

2. Literature Review

Career choice is a pivotal decision that shapes an individual's professional identity, long-term satisfaction, and economic stability (Yusoff et al., 2011). In the accounting profession, this decision is particularly significant due to the availability of diverse career paths such as auditing, taxation, financial analysis, and management accounting (Joshi, 2022). Prior studies indicate that accounting and finance undergraduates evaluate career options based on a combination of personal interests, perceived professional prestige, job security, and expected financial rewards (Ng et al., 2017; Liany & Raharja, 2020).

Career choice in accounting is a multifaceted process influenced by both intrinsic and extrinsic factors, as well as social and environmental conditions. Early career decisions in accounting not only determine initial job placement but also influence long-term career mobility, professional development, and adaptability in a changing business environment (Joseph et al., 2012). Accordingly, understanding the determinants of accounting career choice is critical for educators and policymakers seeking to sustain the profession.

The accounting profession is undergoing a significant transformation due to technological advancements, globalization, and evolving workforce expectations. Technologies such as automation, artificial intelligence, and cloud-based accounting systems are transforming traditional accounting roles, driving increased demand for analytical, advisory, and digital competencies (EY, 2023; NetSuite, 2025). At the same time, younger generations place greater emphasis on meaningful work, flexibility, and work–life balance, influencing career intentions (ACCA, 2024; Robert Half, 2024). In Sri Lanka, these global trends intersect with local labor market conditions, where many accounting graduates increasingly pursue alternative careers outside traditional accounting roles, often driven by perceived salary advantages (ACCA, 2020).

Theoretical explanations of career choice are primarily grounded in Social Cognitive Career Theory (SCCT) and Self-Determination Theory (SDT). SCCT explains career decisions through the interaction of self-efficacy, outcome expectations, and personal goals, while recognizing the influence of environmental support and barriers (Lent et al., 1994). In the accounting context, students with higher confidence in their accounting abilities and positive expectations regarding career outcomes are more likely to pursue accounting-related careers (Ng et al., 2017; Joshi, 2022). SDT complements this framework by distinguishing between intrinsic motivation, driven by personal interest and satisfaction, and extrinsic motivation, driven by external rewards such as salary, job security, and social recognition (Deci & Ryan, 1985).

Empirical studies identify several key factors influencing accounting career choice. Intrinsic motivation, including enjoyment of accounting tasks and confidence in subject knowledge, has consistently been found to positively influence career intentions (Liany & Raharja, 2020; Odia &

Ogiedu, 2013). Findings related to extrinsic motivation remain mixed, with some studies reporting a significant influence of salary expectations and job opportunities (Thing & Jalaludin, 2018), while others suggest that extrinsic factors are weaker compared to intrinsic motivation (Porter & Woolley, 2014).

The influence of third parties, such as parents, peers, lecturers, and career advisors, has also been widely examined. While some studies highlight a strong impact of family and educator guidance on accounting career choice (Effendy et al., 2017; Porter & Woolley, 2014), others suggest that such influence diminishes when students possess strong self-efficacy and clear personal goals (Hsiao & Nova, 2016).

Career exposure, through internships, professional seminars, guest lectures, and interaction with practitioners, is widely recognized as a significant determinant of accounting career choice. Prior research demonstrates that greater exposure enhances students' awareness, confidence, and intention to pursue accounting careers (Ghani & Said, 2009; Hutaibat, 2012; Ng et al., 2017). Additionally, social values, reflecting perceived societal recognition and professional status, influence career decision-making; however, this factor has received limited empirical attention in the Sri Lankan context (Wijayanti, 2001; Liany & Raharja, 2020).

Despite extensive research on accounting career choice, several gaps remain. Findings across studies are inconsistent, particularly regarding the influence of extrinsic motivation and third-party pressure. Moreover, in Sri Lanka, most prior studies have focused predominantly on state universities, despite the rapid expansion of non-state universities, especially in the Colombo district, which now educate a substantial proportion of accounting and finance undergraduates. Limited empirical evidence exists on the factors shaping career intentions within this segment. Accordingly, the present study addresses this gap by examining the factors affecting the perceived choice of accounting career paths among accounting and finance undergraduates in non-state universities in Colombo, Sri Lanka.

3. Methodology

This study adopted a quantitative research design guided by Saunders et al.'s (2019) research onion framework to examine the factors influencing the perceived choice of accounting career paths among accounting and finance undergraduates in non-state universities in the Colombo District, Sri Lanka. A positivist philosophy and a deductive approach were employed, as the study was grounded in Social Cognitive Career Theory (SCCT) and aimed to test hypotheses derived from existing literature. A survey strategy was selected, using a structured questionnaire as the mono-method of data collection. A cross-sectional time horizon was applied, with individual undergraduates serving as the unit of analysis.

The target population for this study comprised accounting and finance undergraduates enrolled in recognized non-state universities within the Colombo District. Universities were identified using the official University Grants Commission (UGC) website, which lists all non-state universities along with the degree programs they offer. This information helped the researcher select institutions offering accredited accounting and finance degrees. Due to limited access to official enrollment records and the absence of direct institutional contacts, a non-probability convenience sampling technique was employed. Questionnaires were shared through the researcher's personal contacts and peer networks, and participation was entirely voluntary. A total of 185 questionnaires were distributed, and 172 responses were received, resulting in a response rate of 92.97%, providing a sufficiently diverse sample for the study. The conceptual framework incorporated five independent variables—intrinsic motivation, extrinsic motivation, influence of third parties, career exposure, and social values—tested against the dependent variable, perceived choice of accounting career path. Data were analyzed using SPSS, employing descriptive statistics, reliability testing, correlation analysis, and multiple regression.

5.1. Conceptual Diagram
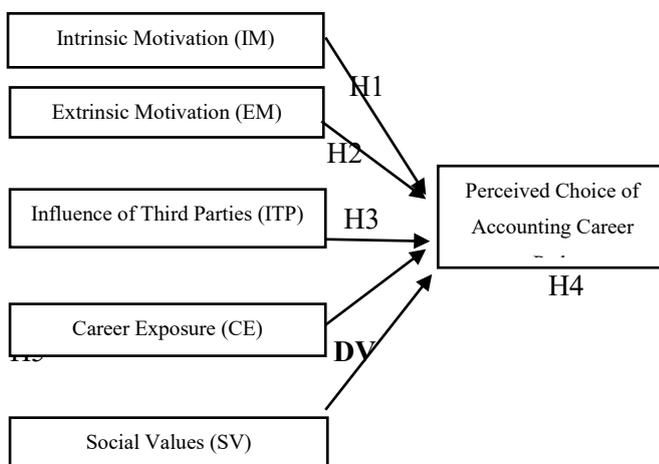
IVs

Figure 3: Conceptual Framework

B. Hypotheses

H1: There is a relationship between intrinsic motivation and the perceived choice of accounting career path among accounting and finance undergraduates in non-state universities in the Colombo District, Sri Lanka.

H2: There is a relationship between extrinsic motivation and the perceived choice of accounting career path among accounting and finance undergraduates in non-state universities in the Colombo District, Sri Lanka.

H3: There is a relationship between the influence of third parties and the perceived choice of accounting career path among accounting and finance undergraduates in non-state universities in the Colombo District, Sri Lanka.

H4: There is a relationship between career exposure and the perceived choice of accounting career path among accounting and finance undergraduates in non-state universities in the Colombo District, Sri Lanka.

H5: There is a relationship between social values and the perceived choice of accounting career path among accounting and finance undergraduates in non-state universities in the Colombo District, Sri Lanka.

4. Data Analysis

4.1. Descriptive Analysis

Descriptive statistics were used to summarize and interpret the responses of 172 undergraduate Accounting and Finance students from non-state universities in the Colombo District, yielding a 92.97% response rate (Gravetter & Wallnau, 2017). The sample was predominantly female (55.8%) and largely aged between 23–25 years (52.3%). Most respondents were in their final year of study (44.8%), with the majority having decided on an accounting career path (90.1%), pursuing professional qualifications (69.2%), and gaining work or internship experience (71.5%).

Analysis of independent variables revealed that intrinsic motivation, including personal interest and confidence in accounting skills, was high among respondents, with over 80% expressing positive attitudes. Extrinsic motivation factors, such as anticipated job opportunities, financial rewards, and professional prestige, were also strongly acknowledged. Influence from third parties, career exposure, and social values further shaped career decisions, highlighting the combined impact of personal, social, and professional factors. Regarding the dependent variable, most students showed a clear intention to

pursue accounting careers, continue their studies, and obtain professional certifications. Overall, the descriptive analysis underscores a highly motivated and well-informed cohort of accounting undergraduates with a defined career orientation. These findings indicate a strong coherence between students' motivations and their intended career paths in accounting. The high levels of awareness and preparedness suggest that respondents possess realistic expectations about the profession. Consequently, this descriptive evidence provides a solid foundation for subsequent inferential and causal analyses in the study

4.2. Reliability Analysis

Table 5. Summary of Cronbach's Alpha Value

Variable	N of Items	Cronbach's Alpha
Intrinsic Motivation	5	0.904
Extrinsic Motivation	5	0.929
Influence of Third Parties	5	0.764
Career Exposure	5	0.907
Social Values	5	0.899
Career Path	5	0.881

According to the results presented in the table, Cronbach's Alpha values for all measured constructs exceed the recommended threshold of 0.7. This indicates a high level of internal consistency among the measurement items, confirming that the scales used are reliable and appropriately capture the underlying constructs. Consequently, the items are deemed suitable for explaining their respective variables and for subsequent statistical analysis in the study.

4.3. Correlation Analysis

Table 6. Summary of Correlations

Independent Variable	Correlation
Intrinsic Motivation	0.748
Extrinsic Motivation	0.693

Influence of Third Parties	0.464
Career Exposure	0.782
Social Values	0.798

According to the results presented in the table, all independent variables have positive relationships with the choice of accounting career path (DV). Intrinsic Motivation (IV1) demonstrated a moderate positive relationship with the dependent variable (r = 0.748). It is shown that high intrinsic motivation is associated with a greater likelihood of choosing an accounting career. Similarly, Extrinsic Motivation (IV2) also showed a moderate positive relationship (r = 0.693), suggesting that external rewards and incentives positively influence undergraduates' accounting career preferences. The Influence of Third Parties (IV3) showed a weak positive relationship (r = 0.464), yet a positive effect on accounting career choice. Moreover, Career 6 Exposure (IV4) and Social Values (IV5) both have moderate positive relationships with accounting career choice. Overall, these results suggest that all the factors positively contribute to undergraduates' preference for accounting careers.

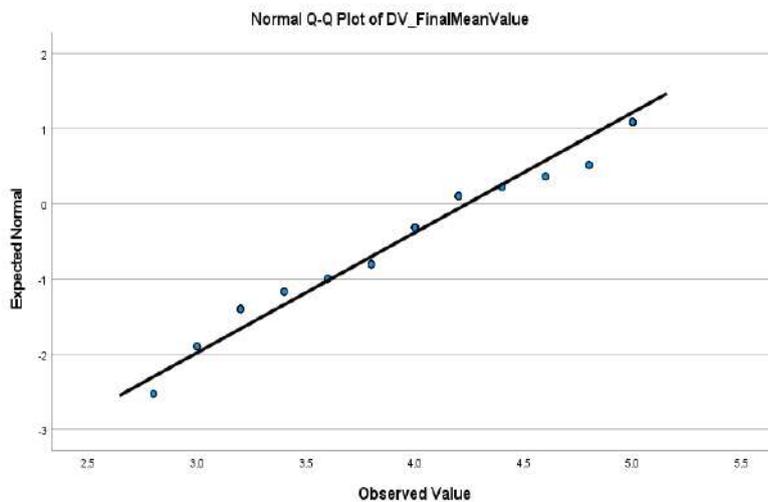### 4.4. Test of Normality

Figure 4: Normal Q-Q Plot

Normality of the dependent variable was assessed using descriptive statistics, skewness and kurtosis measures, graphical inspection, and formal normality tests. Although both the Kolmogorov–Smirnov and Shapiro–Wilk tests were statistically significant (p < 0.05), this outcome was expected given the large sample size (N = 172), as normality tests tend to be overly sensitive in large samples. Accordingly, greater emphasis was placed on distributional characteristics. The skewness (−0.278) and kurtosis (−0.918) values were within acceptable thresholds (±1), and the mean, median, and trimmed mean were closely aligned. Visual inspection of histograms and Q–Q plots further supported approximate

normality. Therefore, the assumption of normality was considered sufficiently satisfied for subsequent parametric analyses.
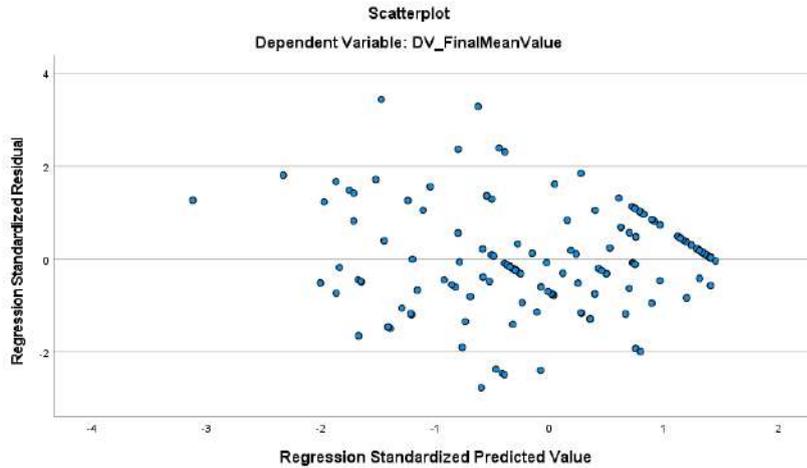
4.5. Test of Homoscedasticity

Figure 5: Scatterplot

The assumption of homoscedasticity was assessed by examining the scatterplot of standardized residuals (ZRESID) against standardized predicted values (ZPRED). As illustrated in the scatterplot, the residuals are randomly dispersed around the zero line with no clear systematic pattern, funnel shape, or curvature. This indicates that the variance of the residuals remains relatively constant across all levels of the predicted values. Accordingly, the assumption of homoscedasticity is satisfied, suggesting that the regression model does not suffer from heteroscedasticity and that the estimated standard errors and significance tests are reliable.

4.6. Test of Multicollinearity

Table 7. Summary of Collinearity Statistics

	Collinearity Statistics	
	Tolerance	**VIF**
(Constant)		
IV1_FinalMeanValue	0.372	2.691
IV2_FinalMeanValue	0.251	3.978
IV3_FinalMeanValue	0.725	1.379
IV4_FinalMeanValue	0.205	4.877
IV5_FinalMeanValue	0.288	3.473

Multicollinearity among the independent variables was assessed using Tolerance values and Variance Inflation Factor (VIF) statistics. All predictors exhibited Tolerance values ranging from 0.205 to 0.725, exceeding the recommended minimum threshold of 0.10. Additionally, VIF values ranged between 1.379 and 4.877, remaining well below the critical value of 10. These findings indicate the absence of serious multicollinearity, confirming that the independent variables are sufficiently distinct and that the regression coefficients are reliable for interpretation.

4.7. Test of Autocorrelation

Table 8. Summary of Autocorrelation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.852a	0.725	0.717	0.33304	2.037

Perceived Choice of Accounting Career Path = β0 + β1IM + β2EM+ β3ITP+ β4CE+ β5SV+ e

The independence of residuals was examined using the Durbin–Watson statistic. The obtained Durbin–Watson value was 2.037, which falls within the acceptable range of approximately 1.5 to 2.5, indicating the absence of autocorrelation among the residuals. According to the Durbin–Watson criterion, a value close to 2 suggests that the residuals are independent. Therefore, the assumption of independence of errors is satisfied, confirming that autocorrelation is not a concern in the regression model.

4.8. Regression Analysis

4.8.1. Model Significance

The significance of the regression model is generally tested using the ANOVA table. In this study, the regression model was developed as follows to assess the impact of the independent variables (Intrinsic Motivation, Extrinsic Motivation, Influence of Third Parties, Career Exposure, and Social Values) on the dependent variable (Choice of Accounting Career Path).

Table 9. ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	48.599	5	9.72	87.63	<0.001
Residual	18.413	166	0.111		
Total	67.011	171			

H0: The model is not significant.

H1: The model is significant.

P = 0.001 < α = 0.05 H0 is rejected.

Therefore, at a 95% confidence level, the regression model developed to explain the choice of accounting career path among undergraduates based on Intrinsic Motivation, Extrinsic Motivation, Influence of Third Parties, Career Exposure, and Social Values are significant.

4.8.2. Hypothesis Testing

This is assessed using the t-test for regression coefficients, where a p-value below 0.05 indicates a statistically significant effect. In this study, the significance of individual independent variables was tested to assess the impact of each variable: Intrinsic Motivation, Extrinsic Motivation, Influence of Third Parties, Career Exposure, and Social Values on the dependent variable (Choice of Accounting Career Path).

Table 10: Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	0.445	0.198	–	2.242	0.026
IV1 – Intrinsic Motivation	0.263	0.069	0.254	3.804	0.001
IV2 – Extrinsic Motivation	-0.024	0.073	-0.026	-0.324	0.746
IV2 – Extrinsic Motivation	0.064	0.04	0.075	1.569	0.119
IV4 – Career Exposure	0.304	0.089	0.309	3.434	0.001
IV5 – Social Values	0.302	0.066	0.348	4.585	0.001

Since the beta values of the independent variables are presented in the above table, the regression model can be expressed as follows,

> Choice of Accounting Career Path = 0.445 + 0.263IM + -0.024EM+ 0.064ITP+ 0.304CE+ 0.302SV

The tables below present the significance analysis of each independent variable, along with the corresponding decision to accept or reject the null hypothesis. For each independent variable, the null hypothesis (H_0) states that the variable has no significant effect on the choice of accounting career path, while the alternative hypothesis (H_1) states that the variable has a significant effect.

Table 11. Summary of Hypothesis Testing

Independent Variable	P Value	Alpha Value (α)	Justification	Decision
Intrinsic Motivation	0.001	0.05	P = 0.001 < α = 0.05	H0 is rejected.
Extrinsic Motivation	0.746	0.05	P = 0.746 > α = 0.05	H0 is not rejected.
Influence of Third Parties	0.119	0.05	P =0.119 > α = 0.05	H0 is not rejected.
Career Exposure	0.001	0.05	P = 0.001 < α = 0.05	H0 is rejected.
Social Values	0.001	0.05	P = 0.001 < α = 0.05	H0 is rejected.

Intrinsic motivation has a significant impact on the choice of accounting career path, whereas extrinsic motivation has no significant impact on the choice of accounting career path. Similarly, the influence of third parties does not have a significant impact on the choice of accounting career path. In contrast, career exposure has a significant impact on the choice of accounting career path, and social values also have a significant impact on the choice of accounting career path.

4.8.3. Model Summary

Table 12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.852a	0.725	0.717	0.33304

According to the above table, the Adjusted R Square value is 0.717, which means that about 71.7% of the variation in the Choice of Accounting Career Path is explained by the Intrinsic Motivation, Extrinsic Motivation, Influence of Third Parties, Career Exposure, and Social Values in the model. Since Adjusted R Square accounts for the number of predictors, this value confirms that the model has strong explanatory power and provides a reliable fit to the data.

5. Findings and Discussion

This study examined the factors influencing the perceived choice of accounting career paths among accounting and finance undergraduates in non-state universities in the Colombo District, Sri Lanka, using descriptive statistics, correlation analysis, and multiple regression analysis. The descriptive results indicate that undergraduates exhibit strong intrinsic motivation toward accounting, reflected in high levels of interest, enjoyment of the subject, and confidence in accounting-related skills. Respondents also acknowledged the relevance of extrinsic incentives, career exposure, social values, and third-party influence, suggesting broad awareness of professional and social aspects related to accounting careers. Correlation analysis showed positive relationships between all independent variables and the perceived choice of an accounting career path, with stronger correlations observed for intrinsic motivation, career exposure, and social values, while the influence of third parties exhibited a comparatively weaker association. These results suggest that personal interest and professional exposure are more closely linked to career choice decisions than external social influence, reinforcing the role of internal and contextual factors in undergraduates' career decision-making.

Multiple regression analysis indicated that the overall model was statistically significant ($p < 0.05$), explaining 71.7% of the variance in the perceived choice of accounting career paths. Intrinsic motivation, career exposure, and social values emerged as significant predictors, whereas extrinsic motivation and the influence of third parties were not statistically significant, indicating that external rewards and social pressure do not independently influence accounting career decisions when intrinsic and experiential factors are considered. Diagnostic tests confirmed the normality of residuals, homoscedasticity, the absence of serious multicollinearity, and independence of errors (Durbin–Watson = 2.037), demonstrating that the regression model is statistically reliable.

From a theoretical perspective, the findings provide clear empirical support for Social Cognitive Career Theory (SCCT). The significance of intrinsic motivation highlights the central role of internal cognitive factors, while career exposure emphasizes the importance of contextual learning and experiential engagement. The non-significant impact of extrinsic motivation suggests that financial incentives alone do not drive career perception when self-efficacy and value alignment are strong. Furthermore, the positive effect of social values demonstrates that culturally embedded norms, societal expectations, and

professional ethics significantly shape accounting career intentions in the Sri Lankan context. These insights extend SCCT by showing how cognitive, environmental, and social factors interact within non-state universities, emphasizing autonomy-driven decision-making among contemporary undergraduates.

The findings align with prior research emphasizing the dominant role of intrinsic motivation in shaping accounting career decisions (Ng et al., 2017; Raharja & Liany, 2020) and support Self-Determination Theory, which argues that intrinsic motivation is a stronger and more sustainable driver of long-term career commitment than extrinsic rewards (Ryan & Deci, 2000). The significance of career exposure confirms the importance of practical engagement, internships, and professional interaction in influencing students' career intentions (Ghani & Said, 2009; Ng et al., 2017), while the positive effect of social values reflects the continuing influence of societal expectations, ethical responsibility, and professional prestige (Albu et al., 2014; Joshi, 2022). The non-significant impact of extrinsic motivation and third-party influence suggests a shift in career decision-making among contemporary undergraduates, who prioritize autonomy, personal fulfillment, and informed judgment over financial incentives or external pressure, highlighting the need for self-directed career planning in accounting education.

In terms of practical and policy implications, these results suggest that universities should strengthen experiential learning opportunities, such as structured internships, mentoring programs, industry collaborations, and professional networking, to enhance students' career exposure. Accounting professional bodies should emphasize the social relevance, ethical contribution, and professional value of accounting careers rather than focusing solely on financial rewards, fostering intrinsic motivation and professional identity formation. Curriculum designers should integrate career development modules that nurture self-efficacy, intrinsic interest, and value alignment, enabling students to make informed and sustainable career choices.

Despite its contributions, this study has several limitations. First, the use of convenience sampling limits the generalizability of findings beyond non-state universities in the Colombo District. Second, the cross-sectional design captures career perceptions at a single point in time and does not account for changes in intentions as students progress academically. Third, reliance on self-reported data may introduce response bias. Future research may employ probability sampling, longitudinal methods, and mixed-method approaches to provide deeper insights into accounting career decision-making processes.

Overall, the findings indicate that accounting career choices among Sri Lankan undergraduates are primarily driven by intrinsic motivation, meaningful career exposure, and social values, while extrinsic rewards and third-party influence play a comparatively limited role. This study extends SCCT in the context of non-state universities in a developing economy, offering both theoretical insights and

actionable guidance for educators, policymakers, and professional accounting bodies to support value-driven and informed career decision-making.

6. Conclusion

This study demonstrates that intrinsic motivation, career exposure, and social values are the primary determinants shaping the perceived choice of an accounting career among accounting and finance undergraduates in non-state universities in Colombo, Sri Lanka, while extrinsic motivation and third-party influence have a limited impact. These findings highlight the importance of fostering students' personal interest and self-efficacy, providing practical learning opportunities such as internships, mentoring, and industry engagement, and emphasizing the social, ethical, and professional value of accounting roles. Theoretically, the study extends Social Cognitive Career Theory (SCCT) by showing how cognitive, contextual, and cultural factors interact to influence career intentions in a developing country setting. Practically, universities and accounting professional bodies can leverage these insights to design career guidance programs, curricula, and engagement initiatives that empower students to make informed, meaningful, and value-driven career decisions in accounting.

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Undergraduate Agency in Artificial Intelligence (AI) During Their Academic Routines

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Abstract

The rapid integration of Artificial Intelligence (AI) tools into education is transforming higher education worldwide. It changes routine educational practices by providing a wide array of information for students. This study aims to examine the use of AI tools among undergraduates, specifically focusing on research writing and exam preparation. Using semi-structured qualitative interviews, the research uncovers students' experiences, motivations, and challenges in adopting tools such as ChatGPT, Grammarly, and Quillbot. Findings indicate that perceived usefulness and ease of use strongly influence students' engagement with AI. While AI enhances learning efficiency and knowledge acquisition, it also raises concerns about academic responsibility, critical thinking, and ethical use. Students recognize the benefits of AI but emphasize the need for clear guidelines and training to ensure responsible adoption. The study contributes to the growing literature on AI in education and provides practical recommendations for educators and policymakers to integrate AI ethically and effectively.

Keywords: *Artificial Intelligence, Educator, Undergraduates, Higher education, Research.*

1. Introduction

Artificial Intelligence (AI) is no longer a futuristic concept; it is a present-day reality shaping industry, professions, and increasingly, education. With the rising use of technology, students are massively incorporating AI tools such as ChatGPT, Grammarly, QuillBot, and Turnitin into their academic routines (Youssef et al., 2024). These tools support writing, research, and understanding complex subjects, often acting as virtual assistants on a student's learning journey. However, while AI is widely discussed in global education contexts (Khan et al, 2025) , its actual usage and impact among Sri Lankan undergraduates remain underexplored. AI is increasingly transforming higher education by improving learning outcomes, personalizing study experiences, and streamlining academic tasks. Research highlights that AI tools enhance academic performance and engagement across disciplines, including finance and economics (Garciapenalvo et al., 2024; Kang & Kim et al., 2024). Tools like ChatGPT provide personalized feedback, diverse perspectives, and writing support, helping students build confidence and independent learning skills (Youssef et al., 2024). However, concerns remain around plagiarism, reduced critical thinking, data privacy, and overreliance, pointing to the need for clear institutional guidelines (Fairooz et al., 2023). In finance education, AI supports practical learning through financial modelling, simulations, and adaptive platforms that allow flexible study (Khan et al, 2025). While students appreciate these benefits, educators caution against fairness and accuracy issues in specialized fields (Gloria et al., 2024). The Technology Acceptance Model (TAM) explains AI adoption through perceived usefulness, ease of use, and social influence (Dissanayake et al., 2025). In Sri Lanka, AI usage is already widespread, with tools like ChatGPT and Grammarly used for grammar checks and concept clarification (Perera & Fernando, 2024). Overall, the literature suggests that AI has the potential to make learning more efficient, inclusive, and engaging, but only if supported by strong systems that protect academic integrity and promote equal access.

This study aims to understand how students engage with AI in real academic settings by exploring how undergraduates in Sri Lankan universities use AI tools for academic activities, primarily for research and exam preparation, to examine their level of awareness, usage patterns, perceived benefits, and ethical concerns. Further, the study aims to offer insights that inform educators, policymakers, and institutions in better supporting students as they navigate AI-enhanced learning environments.

2. Methods

This research uses a qualitative design to explore undergraduates' experiences and perceptions of AI tools in their academic activities at Sri Lankan universities. The study adopts an interpretivist philosophy, which emphasizes understanding the subjective meanings and experiences of individuals within their social contexts. Recent research highlights the importance of interpretive approaches in

educational studies, particularly when investigating how students interact with emerging technologies like AI. For example, Chan and Hu et al. (2023) evaluated university students' perceptions of generative AI technologies and stressed the need to understand students' subjective experiences to inform effective integration of AI in higher education. An inductive research approach is employed, appropriate for exploratory studies where existing literature is limited, with the aim of developing conceptual understanding based on participants' experiences. This aligns with the study's objective of revealing how undergraduates in Sri Lanka utilize AI tools in their academic work, given the lack of existing research in this context. The study focuses on undergraduates from selected universities in Sri Lanka to provide a comprehensive understanding of the specific factors influencing the use of AI tools. The universities and students were selected using both convenience and voluntary sampling, and the sample size was limited to 11 due to time constraints. However, the study sought to understand behavior across different universities rather than relying on data from a single institution. The study employs a mono method qualitative design, relying exclusively on qualitative data to gain deep insights into participants' experiences, without resorting to quantitative methods. This approach enables focused exploration of the complex ways in which undergraduates engage with AI tools in academic activities. Data is collected through semi-structured interviews that balance flexibility in questioning with consistency across participants, covering themes such as the types of AI tools used, their frequency, purpose, perceived benefits, and challenges. The sampling method is determined by data saturation; interviews and audio recordings are used as data collection tools, and thematic analysis is employed for analysis.

Table 1 : Interview details of Participation.

No.	University	Year of Study	Interview duration (Minutes)
01.	NSBM Green University	4th year	08 minutes 07 seconds
02.	University of Jaffna	4th year	27 minutes 08 Seconds
03.	University of Ruhuna	2nd year	15 minutes 23 Seconds
04.	AMDT University	1st year	11 minutes 34 Seconds
05.	University of Moratuwa	1st year	16 minutes 24 Seconds
06.	SLTC University	1st year	13 minutes 05 seconds
07.	E- Soft University	4th year	20minuts 40 Seconds
08.	University of Kelaniya	4th year	15minuts 32 Seconds
09.	Eastern University	3rd year	13 minutes
10.	BCAS University	4th year	07 minutes 42 Seconds
11.	ICBT University	3rd year	15 minutes 22 seconds

3. Results and Discussion

The purpose of the data analysis is to explore undergraduates' perspectives and experiences with AI tools in their academic activities. In this research, qualitative data were collected through semi-structured interviews with eleven students from 11 different universities in Sri Lanka. The analysis process involved carefully reviewing the responses, identifying common patterns, and categorizing the findings into key themes aligned with the research objectives.

3.1. Knowledge

3.1.1. Familiarity with fundamental AI concepts

Perera and Fernando (2024) found that 99% of SLIIT undergraduates use AI tools, with ChatGPT (94%), Quillbot (88%), and Grammarly (79%) being the most popular for grammar checking (73%), enhancing knowledge (68%), and summarizing content (67%). Interviews with students from local and private universities revealed that, despite having only a basic understanding of AI, they value its practical benefits for data analysis, content structuring, and improving written work. For example, one student from Jaffna University stated, *"Yes, I have a basic understanding of what AI is and how it works. I know it involves machines performing tasks that usually require human intelligence, like language processing or decision-making. In my subject area, it can help with analysing data, generating ideas, and improving the quality of written work, but I'm not deeply familiar with the technical side."* Similarly, a student from BCAS University explained, *"I only know the basics of AI. I understand that it involves machines performing intelligent tasks like analysing patterns or generating language. In my field, I mainly see it as a helpful tool to make studying easier, but I don't understand the deeper technical aspects."* Another student from ICBT University shared, *"I have a basic understanding of AI. I know it involves using technology to help machines act intelligently. This includes solving problems or generating text. In my studies, I see AI mainly as a learning assistant, not as something I fully grasp."* The findings from the interviews complement the results of Perera and Fernando et al. (2024), highlighting that undergraduates across various Sri Lankan universities possess a general awareness of AI and its functionalities. While most students do not have advanced technical knowledge, they recognize AI's practical benefits in supporting academic tasks, including data analysis, idea generation and improving the quality of written work. Overall, AI is perceived as a valuable tool for enhancing learning and assignment-related activities, even at a basic level of understanding.

3.1.2. Sources of learning and updates on AI tools.

Fitria (2023) stated that students often learn about AI tools through informal channels such as social media, YouTube tutorials, and peer recommendations, while structured learning is available through

MOOCs and platforms like Udemy, Google AI, Khan Academy, edX, and Coursera. In line with this, interviews with Sri Lankan undergraduates revealed that most have not received formal university training but instead explore free online courses or experiment with AI tools independently. This combination of limited formal instruction and strong self-directed learning enables students to apply AI effectively in their academic work, despite gaps in structured guidance. As one student from Jaffna University shared, "I usually find out about AI tools through social media, YouTube tutorials, and recommendations from my friends. Sometimes I join free online courses or try the tools myself to learn how they work. I haven't received much formal training from the university." Similarly, a student from BCAS University explained, "Most of the time, I hear about AI tools from my friends or see them on TikTok, Instagram, or YouTube. When I find one interesting, I try it out myself. Sometimes, I read blog posts or watch tutorials. My university hasn't offered any structured training yet." The findings show that undergraduates primarily rely on informal, self-directed learning to keep up with AI tools. Social media platforms, YouTube tutorials, peer recommendations, and free online courses are their primary sources of information and practical learning. Most students have not received formal training from their universities, but they build a basic understanding and practical skills through experimentation and self-initiated exploration. This reveals a gap in structured AI education within the university curriculum. It underscores the need to combine formal guidance with self-directed learning to improve students' ability to use AI for academic purposes.

3.1.3. AI tools usage expertise in academic learning

Youssef et al. (2024) emphasize that ChatGPT supports students in achieving academic goals, boosting confidence, and providing personalized assistance. Similarly, Fadillah et al. (2024) found that ChatGPT improves grammar, clarity, and vocabulary, aligning closely with the functions of tools such as Grammarly and Turnitin that many students already use for writing support. The data collected in this study reinforces these findings, showing that undergraduates frequently rely on ChatGPT, Grammarly, QuillBot, and Turnitin for summarizing, paraphrasing, and enhancing written work. However, the results also indicate that many students are still developing skills in crafting effective prompts, highlighting the need for further practice and structured guidance to maximize the benefits of these tools. As one student from Ruhuna University explained, ***"I mostly use ChatGPT, Grammarly, and QuillBot because they are free or affordable and very convenient for academic writing. I did rate my knowledge as good level. I can manage basic tasks like grammar checks, paraphrasing, or summarizing, but I'm still improving at creating strong prompts for better results."*** Similarly, a student from NSBM Green University noted, ***"ChatGPT, Grammarly, and QuillBot are free or reasonably priced and very practical for academic writing, I primarily use them. I thought I knew a lot. Although I can handle simple tasks like summarizing, paraphrasing, and grammar checks, I'm still getting better at coming up with compelling prompts for better outcomes."*** The findings show that undergraduates mainly use ChatGPT, followed by Grammarly, QuillBot, and Turnitin for academic

tasks like summarizing, paraphrasing, and checking grammar. They prefer these tools because they are easy to access and affordable. This supports the research by Youssef et al. (2024) and Fadillah et al. (2023), which points out AI's effectiveness in improving learning outcomes, writing quality, and student confidence. However, the data also indicates that students are still learning how to create effective prompts. This suggests that they need structured guidance and practice to fully benefit from AI tools in their academic work.

3.1.4. Potential of AI to enhance university education

Sajja et al. (2023) found that AI learning assistants provide timely feedback and help with self regulated learning. This allows students to handle their workloads more efficiently. This directly connects with undergraduates' responses. They emphasized that AI makes learning more personalized, reduces time spent on repetitive tasks, and simplifies complex topics. Students also highlighted that AI supports assignments, improves writing quality, and offers quick feedback. This shows that they experience the same benefits identified by earlier research. As one student from Jaffna University noted, *"Yes, definitely. AI can make learning more personalized, save time when doing research, and help us understand complex topics more easily. It can also assist in preparing assignments, improving writing, and giving quick feedback."* Similarly, a student from NSBM Green University stated, *"In fact, without a doubt. AI can simplify complex subjects, reduce time spent on tedious tasks, and personalize learning. Additionally, it can boost overall learning efficiency, improve assignments, and offer prompt feedback."* A student from BCAS University added, *"Yes, I think AI can make education more engaging and personalized. For example, it can provide instant feedback, suggest additional learning materials, and reduce the time spent looking for information. It could also assist students who have difficulty with certain subjects to keep up."* overall the findings show that AI significantly improves higher education by supporting earlier research and student views. Both sources emphasize its ability to personalize learning, simplify complex subjects, reduce workload, and provide timely feedback. This, in turn, leads to better learning outcomes and greater academic efficiency.

3.2. Use

3.2.1. AI tool usage process and intensity

Jiang et al. (2023) and Sajja et al. (2023) found that students mainly use AI to refine, correct, or enhance their work rather than complete tasks entirely. Similarly, undergraduates in this study reported using AI after drafting their work to improve language, rephrase sentences, or get examples. Use is generally occasional but increases during exams and major assignments. As one student from Eastern University explained, *"I mostly used AI at the final stage of my assignments. First, I prepared a draft on my own. Then, I used AI tools to improve clarity, fix grammar, and restructure some points. I didn't use it very often; only when I felt it was necessary. However, during deadlines, I relied on it more."*

Similarly, a student from ICBT University stated, *"I don't use AI all the time. My process is simple. I prepare my own notes first, then use AI to check grammar, find examples, or summarize difficult concepts. I would say I use it occasionally, mainly during assignments or revisions."* Overall, the results show that students use AI tools to support, not replace, their academic work, mainly after drafting assignments or presentations. Key uses include grammar correction, paraphrasing, clarity improvement, and generating examples. Usage is occasional during regular study but rises near exams and deadlines, helping students save time and enhance quality while maintaining ownership of their work.

3.2.2. Potential Academic Applications of AI tools

Holmes et al. (2023) noted that AI can support personalized learning, simplify complex concepts, create practice exercises, and help with project ideas or study tools such as flashcards. Likewise, undergraduates mentioned that AI could assist with study plans, quizzes, data analysis, draft feedback, presentations, and interview practice. The data are shown below. For instance, a student from Moratuwa University noted, *"AI is helpful for creating study plans and practice quizzes, helping with data analysis, and even giving feedback on drafts before submitting assignments. It could also help me prepare for interviews or presentations by simulating questions."* Likewise, a student from Eastern University stated, *"I think AI could help generate sample case studies, create revision quizzes, and explain theories in simpler terms. It could also assist with presentation designs and mock interview preparation."* Overall, the findings show that AI can effectively support understanding and academic tasks. Holmes et al. (2023) and Chen & Xie (2022) highlight its role in personalizing learning, simplifying concepts, and creating practice exercises or study tools. Undergraduates reported that AI helps with study plans, quizzes, data analysis, drafts, presentations, and interview preparation, showing its value for enhancing learning efficiency, comprehension, and academic skills.

3.2.3. AI tools in academic Assessments

Kasneci et al. (2023) note that students frequently rely on AI to generate outlines, structure their work, and provide illustrative examples to strengthen their writing. The interviews conducted in this study reflected similar patterns, showing that undergraduates used AI in a supportive role rather than as a substitute for their own effort. Participants explained that AI helped them clarify difficult topics, generate practice questions, and draft essay formats, but the final answers remained their own. This indicates that students view AI primarily as a guide or facilitator that assists them in completing academic tasks, rather than a tool that performs the work on their behalf. For example, a student from Ruhuna University stated, *"Yes, I've used AI for exam preparation by asking it to explain difficult topics, create practice questions, and suggest essay outlines. Still, I avoid relying on it to produce full answers because I want to keep my work original,"* a student from Kelaniya University shared. *"Yes, but I don't use it to answer questions directly. I use AI for brainstorming ideas, checking if my answers are logically organized, and creating practice essay outlines. I don't depend on AI to do my*

assessments, but I find it helpful as a guide," another student from ICBT University added. *"Yes, I sometimes use AI to create sample essay structures or practice multiple-choice questions. I don't copy directly; I use it as a reference to understand how to frame my answers better."* Overall, the findings show that students use AI as a supportive tool rather than a replacement, helping them clarify concepts, create practice questions, and structure essays while keeping the final work their own. This balanced approach enhances organization and learning without compromising academic honesty, aligning with Kasneci et al. (2023), and demonstrates that AI aids understanding and skill development while preserving students' personal effort and originality.

3.2.4. Benefits and challenges of AI in academics

Holmes et al. (2023) highlight that AI can personalize learning and save time, while Jiang et al. (2023) caution that overreliance may weaken critical thinking. Similarly, students in this study appreciated AI for improving writing, saving time, and providing quick explanations, but they also noted challenges such as inaccuracies and potential overdependence. For example, a student from Jaffna University said, *"Overall, it's been positive. AI saves me time, helps me improve my writing, and gives me quick access to explanations. But sometimes it gives wrong or outdated information, so I have to double-check everything. Another challenge is that if I rely too much on it, I feel like I'm learning less."* Another student from Eastern University added, *"My experience has been mostly positive. AI helps me save time, improves the presentation of my work, and provides alternative explanations. However, the main issues are over-reliance, potential plagiarism, and the risk of incorrect information if I don't verify it."* A student from ICBT University stated, *"My experience has been helpful but uneven. The main benefit is that it saves time and improves clarity in my work. However, I encounter challenges because AI can sometimes give vague or irrelevant answers. This forces me to double-check everything."* Overall, students see AI as a useful, supportive tool that enhances learning while preserving independent thinking and active engagement.

3.2.5. Use of AI to enhance personalized learning

Chen and Xie et al. (2022) define AI as capable of simplifying complex concepts, providing step-by-step explanations, and offering targeted support for peer learning or collaborative study. In our data, students reported using AI to create personalized exam revision plans and to assist classmates in better understanding difficult content. Therefore, AI supports learning. In addition, also supports peer support and collaborative learning activities. For example, a student from Jaffna University said, *"Yes, I once used AI to create a personalized revision plan for my exams based on the topics I found most difficult. I also helped a friend by using AI to break down complex concepts and definition into simpler explanations for them."* a student from Eastern University explained, *"Yes, I used AI to create a revision timetable that matched my exam schedule and my weaker areas. I also made flashcards for my friend to help them remember key definitions more easily."* In conclusion, AI is a valuable tool for

both individual and collaborative learning. Students used it to create personalized revision plans, clarify difficult concepts, and support peers in understanding challenging topics. These findings highlight that AI not only enhances personal study efficiency but also fosters peer learning and collaborative academic engagement when used thoughtfully.

3.2.6. Use of AI to enhance personalized learning

Jiang et al. (2023) caution that AI-generated content can be inaccurate or misleading, requiring careful verification. This aligns with interview findings, where students identified accuracy as their biggest concern. Many noted that AI sometimes provides convincing but incorrect answers, while others pointed to the cost of advanced features as a barrier. Students also expressed worry that overreliance on AI could weaken critical thinking, problem-solving, and creativity. These insights suggest that although AI is a valuable learning aid, it must be used responsibly to preserve independent thinking and academic integrity. For example, a student from SLTC University explained, *"Main challenges are accuracy of information and cost, since not all tools are free. Another concern is becoming too dependent on AI, which might reduce critical thinking skills."* similarly, a student from Eastern University stated, *"The challenges I face include limited access to high-level features because of cost, doubts about the reliability of responses, and the danger of becoming too reliant on the technology."* In summary, Students find AI tools helpful for learning, especially for organizing information and supporting studies. However, concerns about accuracy, cost, and over-reliance are common. These challenges suggest that AI is most effective when used thoughtfully, combined with independent verification, critical thinking, and active engagement with the material.

3.2.7. Importance of AI training in students' learning

Research shows that while AI can ease repetitive tasks, it cannot replace creativity, critical thinking, or deep understanding (Holmes et al., 2023; Jiang et al., 2023). (Chen and Xie et al., 2022) stress the importance of teaching students how to use AI effectively, so they benefit without compromising learning quality. Our interviews show this: students valued AI as support but not as a substitute, and many said they would commit 2–4 hours weekly to structured training to use it more responsibly. For example, a student from AMDT University said, *"I think AI can take over certain repetitive tasks, such as grammar checking or summarization, but it cannot substitute human creativity and understanding. Learning to use AI effectively is very important. I would be willing to spend about 2– 3 hours per week on proper training."* similarly, a student from Eastern University noted*, "AI can automate routine parts of learning, such as correcting grammar or summarizing readings. However, it cannot replace students' creativity or critical thinking. Training is very important. I would be open to spending 2 to 4 hours each week on structured AI workshops."* In summary, AI can help with repetitive tasks but cannot replace human creativity or critical thinking. Students see proper training as

essential and are willing to spend time learning to use AI effectively, viewing it as a supportive tool rather than a substitute for their own thinking.

3.3. Ethics and Safety in the use of AI

3.3.1. Ethical and Safety concerns of AI in education

Jiang et al. (2023) and Sajja et al. (2023) note that AI in education raises ethical and safety concerns, particularly around plagiarism, accuracy, and privacy. Interview data echoed these worries: students feared copying AI content without understanding it, being misled by inaccurate outputs, and not knowing how their data is handled. These insights highlight the need to use AI carefully to protect academic integrity, data security, and learning quality. for example, a student from Jaffna University said, *"My biggest concern is plagiarism. some students might just copy AI-generated answers without understanding the content. I also worry about incorrect or biased information, and how it might affect my work if I don't check it carefully. Privacy is another concern because we don't really know how AI tools store or use the data we type in."* similarly, a student from Ruhuna University stated, *"I worry about plagiarism, as some students may copy AI answers without truly learning. I'm also concerned about unchecked false or biased information that could affect academic work. Data privacy is another issue, since it's unclear how these tools collect and store personal information.* Literature and undergraduate feedback highlight plagiarism, accuracy, and data privacy as the main concerns when using AI in education. Students may copy AI-generated content without understanding it, risk relying on misleading or biased information, and face uncertainty about how their personal data is handled. These findings underscore the need for careful and responsible use of AI to protect academic integrity, ensure accurate learning, and safeguard privacy.

3.3.2. Standards for Transparent use of AI

Holmes et al. (2023) note that students who verify AI outputs, paraphrase content, and acknowledge AI use are better able to maintain originality and integrity. Interview data supported this, showing that students often treat AI as a reference, cross-check answers with reliable sources, and rewrite suggestions in their own words. Some even acknowledged AI's role in their work. These practices help keep assignments authentic while allowing students to responsibly benefit from AI. For example, a student from Jaffna University said, *"Yes, I have set some personal rules for myself. I always cross-check AI answers with other sources, and if I use AI to help with an assignment, I rephrase it in my own words and sometimes mention that AI assisted me. This way, I am confident the final work is mine, and I avoid copying directly.*

These rules have helped me stay original while still using AI as a support tool." Similarly, a student from NSBM Green University explained*, "Yes, I have set some personal guidelines when using AI. I*

don't rely on the content directly. Instead, I cross-check the information with textbooks, lecture notes, or reliable online sources. If I use it for assignments, I make sure to rephrase everything in my own style and add my own thoughts. Sometimes I also acknowledge that I used AI as a support tool." The findings suggest that students can use AI as a helpful tool while maintaining the authenticity of their work. By setting simple personal rules. Like checking AI information against reliable sources, rewriting it in their own words, and acknowledging AI's support, they stay in control of their assignments. The interviews show that these practices not only prevent plagiarism but also give students confidence that their work is original and trustworthy, allowing them to benefit from AI without compromising their learning.

3.3.3. Responsible AI use in studies

Kasneci et al. (2023) and Holmes et al. (2023) emphasize that students should treat AI suggestions as starting points, expanding or rewriting them in their own words. This was showed in the interviews, where students described using AI mainly for guidance such as checking grammar, improving phrasing, or generating ideas while ensuring the final content reflected their own understanding. For instance, a student from Ruhuna University stated, *"I make sure not to depend on AI to write my assignments. I use it only for suggestions or examples. Then, I rewrite everything in my own words to show my understanding."* a student from E-Soft University explained, *"To prevent dishonest use, I write my first draft myself. AI is only used afterward for minor improvements, and I make sure to rewrite everything in my own way."* similarly, a student from Eastern University said, *"I avoid directly using AI answers. I only refer to it for structure or examples, then I rewrite the material so that it reflects my own effort."* Overall, the findings show that students view AI as a supportive tool rather than a replacement for their own thinking. They consistently emphasize using AI to guide ideas, check grammar, or improve phrasing, while ensuring that all content is rewritten in their own words. By doing so, students maintain academic integrity, demonstrate their true understanding, and prevent over-reliance on AI in their learning process. This reflects a thoughtful, responsible approach to integrating AI into academic work.

4. Conclusion

This study explored how Sri Lankan undergraduates are engaging with AI tools in their academic lives, with tools like ChatGPT, Grammarly, and Turnitin becoming part of their daily routines and supporting writing, research, and understanding complex topics, emphasizing that Sri Lankan students are more inclined to use AI for practical aspects, such as grammar checking, paraphrasing than for conceptualizations through AI. The data revealed that students mainly used AI during high-pressure situations, such as exams or assignment deadlines, but most preferred drafting their own work first and

then relying on AI for grammar checking, paraphrasing, or generating ideas, indicating a conscious effort to maintain originality. Many also demonstrated ethical awareness by setting boundaries to avoid plagiarism and used AI collaboratively to support peers. These findings suggest that AI is reshaping academic behaviour by enhancing efficiency, creativity, and collaboration, which highlights the importance of universities providing clear guidelines, structured training, and equitable access to ensure responsible adoption while preparing students with essential digital skills. However, the study has limitations: the sample size was small and drawn from a limited number of universities, focusing only on undergraduates, which may not fully represent the wider student population in Sri Lanka. This research explored how undergraduates in Sri Lanka across both private and local universities use AI in their academic lives. Moving beyond assumptions, we found that students are integrating AI tools such as ChatGPT, Grammarly, and Quillbot into their workflows to enhance efficiency. They use AI to brainstorm ideas, draft assignments, and summarize complex materials, seeing it as a supportive tool rather than a replacement for effort. The study highlights the need to examine AI's long-term effects on critical thinking and academic integrity. While limited to certain universities, the findings provide valuable insights and point to future research directions, including broader student samples and strategies for responsible AI integration in higher education

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Assessing the Influence of Organizational Green Culture on Green Performance Through Green Innovation: Evidence from a BOI Company in Sri Lanka.

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Abstract

Growing global concern over environmental sustainability has compelled firms to realign their strategic priorities toward green innovation. Although organizations increasingly recognize the importance of environmental responsibility, empirical evidence on the mechanisms through which organizational culture enhances environmental outcomes remains limited, particularly in developing economies. This study aims to examine the influence of Organizational Green Culture (OGC) on Environmental Performance (EP) through the mediating role of Green Innovation (GI) within a developing economy context, empirically examine whether green innovation functions as a mediating mechanism linking organizational green culture to environmental performance in a developing economy context."

While prior research has explored green culture and performance in developed economies, limited empirical evidence exists from South Asian emerging markets, particularly Sri Lanka. This study addresses that gap by developing and testing a mediation model using survey data collected from 209 employees of a manufacturing firm located in a Board of Investment (BOI) zone in Sri Lanka.

Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the findings reveal that OGC significantly enhances GI, and GI significantly improves EP. However, OGC does not directly affect EP, confirming that green innovation fully mediates the relationship. These results underscore the critical role of green innovation as the key mechanism through which green organizational culture translates into improved environmental outcomes.

The study contributes theoretically by extending the Natural Resource-Based View (NRBV) in a developing country setting and empirically demonstrating that cultural commitment alone is insufficient unless translated into innovation capabilities. The findings offer strategic implications for managers seeking to improve environmental performance through innovation-driven cultural transformation.

Keywords*: organizational green culture, green innovation, environmental performance, sustainability, manufacturing firms, Sri Lanka*

1. Introduction

Environmental sustainability has become a central concern for the manufacturing sector as firms face increasing pressure from environmental regulations, shareholders, and market forces to reduce their ecological footprint (Leonidou et al., 2013; Yu et al., 2017). At the same time, consumer preferences have shifted markedly toward environmentally friendly products, resulting in a rapid growth in demand for green products and sustainable business practices (Hoffmann, 2007; Zhu et al., 2008; Kotler, 2011). Governments have also strengthened environmental regulations to minimize the adverse environmental impacts of industrial activity. Collectively, these regulatory, market, and societal pressures have compelled manufacturing firms to adopt greener and more innovative strategies to achieve their corporate environmental objectives (Robinson & Stubberud, 2013).

In response to these pressures, green innovation has emerged as a key strategic approach for organizations seeking to balance environmental responsibility with competitive performance. However, research on green innovation remains at an early stage (Andersen, 2008). While green innovation is widely viewed as essential for long-term sustainability, some studies suggest that its implementation may initially increase development time and costs, potentially constraining short-term firm performance (Das et al., 2006; Ragatz et al., 2002). This tension has intensified scholarly interest in understanding whether and how green innovation ultimately enhances organizational performance, particularly environmental performance (Martins & Terblanche, 2003). Despite this growing attention, empirical evidence remains fragmented, especially in developing country contexts.

Organizational green culture (OGC) has been identified as a critical antecedent of green innovation. OGC reflects the extent to which environmental values are embedded within an organization's vision, mission, and shared norms, guiding managerial and employee behavior toward sustainability (Stone et al., 2004). When environmental responsibility is internalized as a core organizational value, employees are more likely to support green initiatives and engage actively in environmental problem-solving (Baker & Sinkula, 2005; De Ruyter et al., 2009; Grinstein & Nisan, 2009). A strong green culture therefore creates a supportive environment in which green innovation can flourish, potentially translating into superior environmental performance.

Although prior studies suggest links between organizational culture, innovation, and performance, limited empirical research has examined the mediating role of green innovation in the relationship between organizational green culture and environmental performance, particularly within developing economies. This gap is especially evident in the Sri Lankan manufacturing sector, where sustainability-driven organizational practices remain underexplored. Addressing this gap, the present study investigates how organizational green culture influences environmental performance through green innovation in a manufacturing company located in the Horana Board of Investment (BOI) zone in Sri Lanka. By extending existing frameworks to a developing country context, this study aims to provide

empirical evidence on the cultural and innovative mechanisms through which firms can enhance their environmental performance.

2. Literature Review

2.1. Organizational Green Culture and Environmental Performance

Green performance reflects an organization's effectiveness in managing environmental impacts through regulatory compliance, ecological responsibility, and environmental management systems (Chinander, 2001; Ilinitch et al., 1998; Veleva & Ellenbecker, 2000). It captures the extent to which firms implement environmentally responsible practices such as reducing waste, conserving energy, minimizing emissions, and promoting recycling (Zailani et al., 2012). As such, green performance serves as a critical indicator of an organization's commitment to sustainability and environmental stewardship (Neely et al., 1995).

Organizational green culture (OGC) has been widely recognized as a key driver of environmental performance. OGC represents the shared environmental values, beliefs, and norms embedded within an organization's vision, mission, and everyday practices, which shape employee attitudes and behaviors toward sustainability (Stone et al., 2004). Prior research suggests that a strong green culture can transform employees into change agents who actively support and implement environmentally responsible initiatives (Rao & Holt, 2005). When top management demonstrates a strong commitment to environmental protection, the adoption of green strategies becomes more effective and embedded throughout the organization (Klassen & Vachon, 2003; Yung et al., 2011).

Organizations with well-established green cultures tend to promote environmentally friendly products and operational practices grounded in ecological values (Banerjee et al., 2003). Such cultures facilitate the alignment of organizational strategies with environmental objectives, thereby enhancing green performance outcomes (Schlegelmilch et al., 1996). Conversely, firms lacking a strong green culture often face resource constraints and managerial resistance, leading to the prioritization of short-term economic goals over environmental responsibilities (Russo & Fouts, 1997). In these contexts, environmental initiatives may be perceived as cost burdens rather than strategic investments, resulting in lower levels of green performance.

Empirical evidence consistently supports the positive relationship between organizational green culture and environmental performance. Studies by Chen (2011), Zailani et al. (2012), and Wang (2019) demonstrate that organizations with strong green cultures exhibit significantly higher levels of environmental performance. These findings indicate that green culture enables firms to respond more effectively to environmental pressures and sustainability demands.

2.2. The Mediating Role of Green Innovation

Green innovation plays a crucial mediating role in translating organizational green culture into improved environmental performance. Green innovation refers to the development and implementation of new products, processes, and practices that reduce environmental harm while enhancing organizational sustainability outcomes (Chen, 2011). Prior studies have shown that organizations with strong green cultures are more likely to adopt green innovations, as employees internalize environmental values and actively engage in sustainability-driven innovation activities (Baker & Sinkula, 2005; De Ruyter et al., 2009; Grinstein & Nisan, 2009).

Empirical research provides strong support for the mediating effect of green innovation between organizational green culture and environmental performance. Chen (2011) and Zailani et al. (2012) found that green innovation significantly enhances environmental performance and partially mediates the impact of green culture. Similarly, Roscoe et al. (2019) reported that green innovation strengthens the relationship between green organizational culture and environmental performance by encouraging pro-environmental employee behaviors. Hadjri et al. (2019) also confirmed the positive influence of green organizational culture on environmental performance through green management and innovation practices.

Further studies highlight that green organizational culture motivates employees to adopt sustainable behaviors and actively participate in environmental initiatives, thereby fostering innovation-led environmental improvements (Rizvi & Garg, 2020). Green culture can thus be viewed as a strategic capability that enables firms to simultaneously pursue environmental and performance objectives (Burki et al., 2018). In organizations facing increasing environmental pressures, a well-developed green culture supported by green innovation serves as a critical mechanism for achieving superior environmental performance (Wang, 2019).

Green innovation enables firms to reduce environmental harm through eco-friendly products, processes, and managerial practices. Empirical studies increasingly support the significant effect of green innovation on environmental performance.

2.3. Organizational Green Culture and Green Innovation

The concept of green innovation has been discussed in the literature under multiple terminologies, including *eco-innovation* and *environmental innovation*, leading to some conceptual ambiguity (Belin et al., 2011; Brunnermeier & Cohen, 2003; De Marchi, 2012; Hojnik & Ruzzier, 2016; Wang, 2019). Despite these variations, scholars broadly agree that green innovation refers to innovations that reduce environmental harm while creating value for organizations and society.

Fussler and James (1996) define green innovation as the development of new products and processes that deliver business and customer value while significantly reducing environmental impacts. Similarly, the Eco-Innovation Observatory (2012) describes green innovation as the introduction of new or substantially improved products, processes, organizational practices, or marketing solutions that reduce resource consumption and environmental pollution across the product life cycle. Reid and Miedzinski (2008) further emphasize that green innovation encompasses competitively priced goods and systems that minimize natural resource use and toxic emissions. Building on these perspectives, Wang (2019) conceptualizes green innovation as product, process, and managerial innovations that significantly reduce environmental burdens.

Organizational culture plays a critical role in shaping innovation outcomes. Prior studies suggest that firm culture, leadership orientation, and strategic planning directly influence innovation capability (O'Regan & Ghobadian, 2005). Organizations with well-defined and supportive cultures tend to demonstrate higher levels of innovation than those with weaker cultural alignment. In the context of sustainability, a strong organizational green culture (OGC) characterized by shared environmental values, norms, and behaviors can facilitate the adoption and diffusion of green innovation strategies (Porter & Van der Linde, 1995a).

OGC supports innovation by encouraging environmentally responsible thinking and guiding employee behavior toward ecological objectives. Greeno and Robinson (1992) argue that green organizational culture promotes innovation in environmental technologies, while Wang (2019) highlights that OGC shapes firm behavior and norms related to environmental support. Managers operating within organizations that prioritize ecological preservation are more likely to implement environmental protection policies and invest in green innovation initiatives. This cultural alignment enables firms to differentiate themselves through enhanced green innovation capabilities and compliance with environmental quality standards (Wang, 2019).

Empirical studies provide strong support for the positive relationship between organizational green culture and green innovation. Chang (2015) and Chen et al. (2012) found that green organizational culture significantly enhances green innovation in manufacturing firms. Tajeddini and Trueman (2012) further demonstrated that cultural dimensions such as long-term orientation positively influence innovation outcomes. Khazanchi et al. (2007) argue that organizations with strong green cultures are more actively involved in environmental protection activities, thereby encouraging employees to engage in green innovation efforts. Collectively, these findings suggest that organizational green culture is a foundational driver of green innovation.

From the Resource-Based View (RBV) and Natural Resource-Based View (NRBV), organizational green culture alone may not directly yield environmental benefits unless translated into innovation

capabilities. Green innovation serves as the operational mechanism through which cultural values influence performance outcomes.

2.4. Green Innovation and Green Performance

Green innovation has increasingly been viewed as a strategic response to environmental regulations and growing societal pressure on manufacturing firms to reduce environmental damage (Wang, 2019). Governments worldwide have introduced stricter environmental regulations, prompting firms to adopt green innovations aimed at minimizing pollution, waste, and resource consumption. These innovations allow firms to align environmental responsibility with corporate objectives for sustainability (Robinson & Stubberud, 2013).

Despite its strategic importance, research on green innovation remains relatively limited and has produced mixed findings. Andersen (2008) noted that green innovation strategies are still in their early developmental stages, while Wang (2019) emphasized the scarcity of empirical studies examining the innovation environmental performance relationship. Some studies suggest that green innovation enhances environmental outcomes without necessarily improving short-term financial performance (Rao & Holt, 2005). In contrast, others argue that green innovation may initially reduce performance due to increased development time and higher implementation costs (Das et al., 2006; Ragatz et al., 2002).

These contradictory findings have intensified scholarly interest in understanding the impact of green innovation on environmental performance. Empirical evidence increasingly supports a positive relationship between green innovation and green performance. Wang (2019) found that green innovation significantly improves environmental performance in manufacturing firms. Similarly, Seman et al. (2019) reported that green innovation has a strong positive effect on environmental performance, while Wang et al. (2021) demonstrated that promoting green concepts within organizations contributes to environmental protection and overall firm performance. These findings indicate that green innovation serves as a critical mechanism through which firms can achieve improved environmental outcomes.

2.5. The Mediating Role of Green Innovation

From a strategic and resource-based perspective, organizational green culture alone may not directly translate into superior environmental performance unless it is operationalized through green innovation practices. Firms that actively support green innovation are better positioned to enhance green performance, strengthen corporate image, and create new market opportunities (Michaelis et al., 2018). Green innovation enables organizations to reduce production waste, minimize pollution, and improve

environmental efficiency, thereby reinforcing firm reputation and legitimacy (Berry & Rondinelli, 1998; Chen et al., 2006).

A shared environmental vision is a key characteristic of strong organizational green culture and serves as a catalyst for green innovation (Miles et al., 2000). When managers and employees collectively value environmental protection, organizations are more likely to allocate resources toward green innovation initiatives (Weller, 2006). Empirical studies consistently demonstrate that green innovation mediates the relationship between organizational green culture and green performance. Chen (2011) and Zailani et al. (2012) found that green innovation partially or fully mediates this relationship, suggesting that green culture enhances environmental performance primarily through innovation mechanisms.

Further evidence by Wang (2019) confirms that green innovation fully mediates the impact of organizational green culture on green performance. These findings indicate that organizational green culture acts as a foundational driver that stimulates green innovation, which subsequently leads to improved environmental outcomes. Thus, green innovation serves as a critical explanatory mechanism linking organizational green culture to green performance.

Based on the theoretical foundation of the Resource-Based View (RBV) and Natural Resource-Based View (NRBV), this study proposes that organizational green culture enhances green innovation capability, which subsequently improves environmental performance. Accordingly, the following hypotheses are formulated:

H1: Organizational Green Culture (GOC) has a positive and significant effect on Green Innovation (GI).

H2: Green Innovation (GI) has a positive and significant effect on Environmental Performance (EP).

H3: Organizational Green Culture (GOC) has a positive and significant direct effect on Environmental Performance (EP).

H4: Green Innovation (GI) mediates the relationship between Organizational Green Culture (GOC) and Environmental Performance (EP).

3. Methodology

Based on the Resource-Based View (RBV) and Natural Resource-Based View (NRBV), this study proposes that Organizational Green Culture (GOC) serves as an internal strategic capability that enhances Green Innovation (GI), which in turn improves Environmental Performance (EP). In addition to this indirect pathway, the model also examines the direct effect of GOC on EP to determine whether green innovation functions as a mediating mechanism. The conceptual framework is presented in Figure 1.
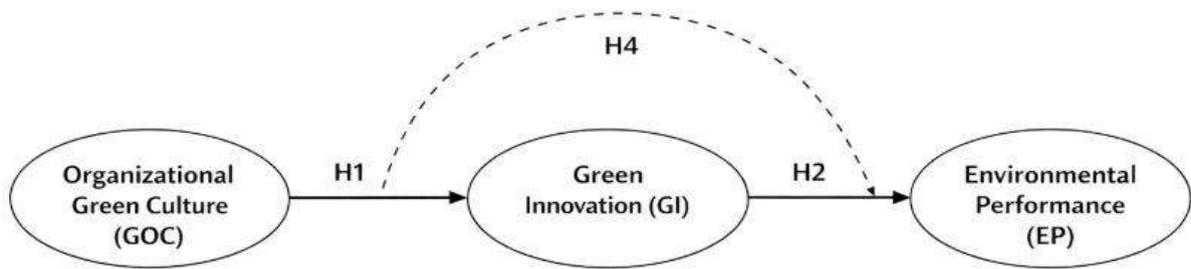
Figure 1- Conceptual Framework (Source : Author)

3.1. Research Design and Sample

This study employed a quantitative, cross-sectional survey design to examine the relationships among organizational green culture, green innovation, and environmental performance. Data were collected from employees working in a manufacturing firm located in the Horana Board of Investment (BOI) zone in Sri Lanka.

The target population consisted of 453 employees. Based on the Morgan sample size determination table, a sample size of 209 respondents was deemed appropriate. A total of 250 questionnaires were distributed, of which 220 were returned, yielding a response rate of 88.5%. After excluding 11 incomplete responses, 209 valid questionnaires were retained for final analysis.

3.2. Data Collection Procedure

Data were collected using a structured self-administered questionnaire distributed via Google Forms. The questionnaire was developed based on established measures from prior literature to ensure content validity. Participation was voluntary, and respondents were assured of confidentiality and anonymity to reduce response bias.

The questionnaire was structured into four main sections. The first section collected demographic information to provide background characteristics of the respondents. The second section measured organizational green culture using six items. The third section assessed green innovation as the mediating variable using nine items. The fourth section measured environmental performance using nine items. An optional open-ended section was included at the end of the questionnaire to allow respondents to provide additional comments or insights, which can enhance data quality and capture unanticipated perspectives (Creswell & Creswell, 2018).

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All construct items were measured using a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The use of a Likert scale is widely accepted in behavioral and management research as it enables respondents to express varying degrees of agreement and facilitates reliable quantitative analysis.

4. Data Analysis and Results

This study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the relationships among Green Organizational Culture (GOC), Green Innovation (GI), and Environmental Performance (EP). PLS-SEM was selected due to its suitability for predictive research, complex mediation models, and non-normal data distributions. All constructs were modeled using reflective indicators, following the guidelines of Hair et al. (2017). The analysis was conducted in two stages: (1) assessment of the measurement model, and (2) assessment of the structural model, including mediation and hypothesis testing.

4.1. Measurement Model Assessment

The measurement model was evaluated for internal consistency reliability, convergent validity, indicator reliability, and discriminant validity using PLS-SEM.

4.1.1. Construct Reliability and Convergent Validity

Internal consistency reliability was assessed using Cronbach's alpha and composite reliability (ρa and ρc). As presented in Table 3, Cronbach's alpha values for Green Organizational Culture (0.972), Green Innovation (0.895), and Environmental Performance (0.896) exceeded the recommended threshold of 0.70 (Nunnally, 1978), indicating strong internal consistency. According to George and Mallery (2003), values above 0.90 indicate excellent reliability, while values above 0.80 indicate good reliability.

Composite reliability values (ρa and ρc) were also above the acceptable threshold of 0.70 for all constructs, with several values exceeding 0.90, confirming excellent construct reliability. Composite reliability provides a more accurate estimate of internal consistency than Cronbach's alpha, as it accounts for individual indicator loadings (Hair et al., 2017).

Convergent validity was evaluated using Average Variance Extracted (AVE). All AVE values exceeded the minimum recommended value of 0.50 (Fornell & Larcker, 1981), indicating that the constructs explained more than 50% of the variance in their indicators (Hair et al., 2010). These results confirm adequate convergent validity for all constructs.

Cronbach's alpha, composite reliability (ρa and ρc), and Average Variance Extracted (AVE) values exceeded recommended thresholds, confirming strong internal consistency and convergent validity.

Table 1 - Construct Reliability and Validity (Source: Author)

Construct	Cronbach's Alpha	Composite Reliability (ρa)	Composite Reliability (ρc)	Average Variance Extracted (AVE)
EP	0.896	0.897	0.917	0.579
GI	0.895	0.897	0.916	0.577
GOC	0.972	0.972	0.974	0.640

4.1.2. Indicator Reliability (Outer Loadings)

Indicator reliability was assessed by examining outer loadings. All measurement items exhibited loadings above the recommended threshold of 0.70, indicating that each indicator sufficiently represented its corresponding latent construct. According to Hair et al. (2017), loadings above 0.70 suggest that more than 50% of the variance in an indicator is explained by the latent construct. As all indicators met this criterion, no items were removed from the measurement model.

4.1.3. Discriminant Validity

Discriminant validity was assessed using the Fornell–Larcker criterion, which requires that the square root of the AVE for each construct be greater than its correlations with other constructs (Fornell & Larcker, 1981).

Table 2 - Fornell-Larcker criterion (Source: Author)

Construct	EP	GI	GOC
EP	**0.761**		
GI	0.613	**0.760**	
GOC	0.470	0.750	**0.800**

As shown in Table 2, the square root of AVE for Environmental Performance (0.761) exceeded its correlations with Green Innovation (0.613) and Green Organizational Culture (0.470). Similarly, the square root of AVE for Green Innovation (0.760) was greater than its correlations with Environmental Performance (0.613) and Green Organizational Culture (0.750). The square root of AVE for Green Organizational Culture (0.800) also exceeded its correlations with Environmental Performance (0.470) and Green Innovation (0.750). These results confirm that discriminant validity is established and that all constructs are empirically distinct.

4.2. Structural Model Assessment

After confirming the adequacy of the measurement model, the structural model was evaluated by examining path coefficients, coefficients of determination (R^2), and mediation effects. Bootstrapping with 5,000 subsamples was used to assess the significance of the hypothesized relationships.

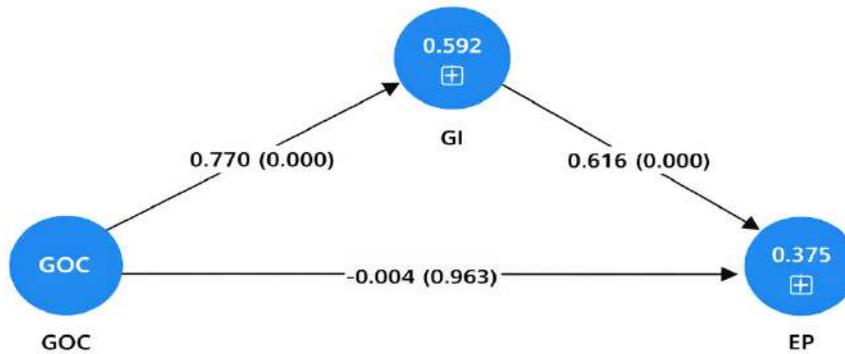#### *4.2.1. Path Coefficients and Explained Variance*

Figure 2 - Coefficient and significant Values

Figure 2 presents standardized path coefficients and R^2 values derived from bootstrapping (5,000 subsamples). Solid lines represent significant relationships, while dashed lines indicate non-significant paths. The results indicate that Green Organizational Culture has a strong and significant effect on Green Innovation ($\beta = 0.770$, t = 33.134, p < 0.001). Green Innovation also has a significant effect on Environmental Performance ($\beta = 0.616$, t = 6.942, p < 0.001). In contrast, the direct effect of Green Organizational Culture on Environmental Performance was non-significant ($\beta = -0.004$, t = 0.046, p = 0.963).

The coefficient of determination (R^2) values indicate that the model explains 59.2% of the variance in Green Innovation and 37.5% of the variance in Environmental Performance. According to Hair et al. (2017), these values represent moderate to substantial explanatory power in behavioral research.

4.2.2. Mediation Analysis

Table 3 -Path Coefficients (Source: Author)

Path	Original Sample (O)	Sample Mean (M)	Std. Deviation (STDEV)	t-value	p-value
GI → EP	0.616	0.619	0.089	6.942	0.000

GOC → EP	−0.004	−0.004	0.083	0.046	0.963
GOC → GI	0.770	0.771	0.023	33.134	0.000

Table 4 -Specific Indirect effect (Source: Author)

Indirect Path	Original Sample (O)	Sample Mean (M)	Std. Deviation (STDEV)	t-value	p-value
GOC → GI → EP	0.474	0.478	0.072	6.538	0.000

Mediation analysis was conducted to examine whether Green Innovation mediates the relationship between Green Organizational Culture and Environmental Performance. The results reveal a significant indirect effect of Green Organizational Culture on Environmental Performance through Green Innovation ($\beta = 0.474$, t = 6.538, p < 0.001). At the same time, the direct effect of Green Organizational Culture on Environmental Performance remained non-significant.

This pattern indicates full mediation, suggesting that Green Organizational Culture enhances Environmental Performance only through Green Innovation. Therefore, Green Innovation serves as a critical mechanism through which organizational green culture is translated into environmental outcomes.

4.3. Path Analysis and Hypotheses Testing Results

The results of the path analysis reveal several significant relationships among the study variables. Hypothesis H1, which proposed a direct effect of Green Organizational Culture (GOC) on Environmental Performance (EP), was not supported. The path coefficient between GOC and EP was negative and statistically non-significant ($\beta = -0.004$, t = 0.046, p = 0.963), indicating that organizational green culture does not directly influence environmental performance.

In contrast, Hypothesis H2 was supported, as Green Organizational Culture exhibited a strong and significant effect on Green Innovation (GI) ($\beta = 0.770$, t = 33.134, p < 0.001). This finding suggests that a robust green organizational culture significantly enhances green innovation activities within the organization.

Similarly, Hypothesis H3 was supported, as Green Innovation demonstrated a significant effect on Environmental Performance ($\beta = 0.616$, t = 6.942, p < 0.001). This result indicates that green innovation plays a critical role in improving environmental performance outcomes.

Finally, Hypothesis H4, which proposed a mediating role of Green Innovation in the relationship between Green Organizational Culture and Environmental Performance, was supported. The mediation analysis revealed a significant indirect effect of GOC on EP through GI ($\beta = 0.474$, $t = 6.538$, $p < 0.001$), while the direct effect of GOC on EP remained non-significant. This pattern provides evidence of full mediation, indicating that Green Innovation is a necessary mechanism through which Green Organizational Culture influences Environmental Performance.

5. Discussion of Findings

Prior research has extensively documented the role of organizational culture in shaping firm performance and innovation outcomes (Deshpandé & Farley, 2004; Farley et al., 2008). However, empirical investigations into how organizational green culture influences environmental performance through green innovation remain limited, particularly in developing country contexts. Addressing this gap, the present study provides empirical evidence on the mediating role of green innovation in the relationship between organizational green culture and environmental performance within a Sri Lankan manufacturing setting.

Although prior studies (e.g., Wang, 2019) reported a direct positive effect of organizational green culture on environmental performance, the present findings do not support this direct relationship. This discrepancy may reflect contextual differences between developed and developing economies, regulatory maturity, and innovation infrastructure.

The findings reveal that organizational green culture does not exert a direct influence on environmental performance, but instead affects environmental outcomes indirectly through green innovation. This result partially contrasts with the findings of Wang (2019b), who reported a direct effect of green organizational culture on green performance in Taiwan. The divergence may be attributed to contextual differences between developed and developing economies, particularly in terms of regulatory enforcement, technological maturity, and organizational readiness for environmental initiatives. In developed economies such as Taiwan, environmental protection mechanisms and innovation infrastructures are more advanced, enabling green culture to translate more directly into performance outcomes.

Consistent with prior literature, the study confirms that organizational green culture has a significant effect on green innovation. This finding reinforces the argument that shared environmental values, norms, and beliefs encourage organizations to invest in environmentally friendly products, processes, and technologies. While previous studies on green innovation have largely focused on market pull and technology push factors as primary drivers (Porter & Van der Linde, 1995b; Cleff & Rennings, 1999),

the current findings highlight the importance of internal cultural factors as a foundational driver of green innovation.

Moreover, the results demonstrate that green innovation significantly enhances environmental performance, supporting the view that innovation is a critical mechanism through which organizations reduce environmental impacts and improve sustainability outcomes. Importantly, the mediation analysis confirms that green innovation fully mediates the relationship between organizational green culture and environmental performance, indicating that green culture alone is insufficient to generate environmental benefits unless it is operationalized through innovation activities. This finding aligns closely with Wang (2019b) and extends his work by validating the model in a developing country context using a different methodological approach (PLS-SEM instead of AMOS).

From a theoretical perspective, the findings are consistent with both the Resource-Based View (RBV) and the Natural Resource-Based View (NRBV). Organizational green culture can be considered a valuable, rare, and difficult-to-imitate resource that provides competitive advantage (Barney, 1991). However, the results suggest that this cultural resource must be transformed into green innovation capabilities to yield superior environmental performance. In line with NRBV theory, environmental pressures should be addressed by developing new organizational capabilities such as green innovation rather than relying solely on symbolic or cultural commitments (Russo & Fouts, 1997; Wang, 2019b).

Overall, this study advances the literature by empirically demonstrating that green innovation is the critical conduit through which organizational green culture translates into environmental performance, particularly in emerging economies like Sri Lanka.

5.1. Managerial and Social Implications

The findings of this study offer important managerial and social implications for manufacturing organizations seeking to enhance environmental performance through organizational green culture and green innovation, particularly in developing country contexts.

From a managerial perspective, the results emphasize the critical role of organizational green culture as a strategic foundation for fostering green innovation. Managers should actively embed environmentally friendly values into the organization's vision, mission, and daily practices. Strong leadership commitment is essential, and senior management should model pro-environmental behavior while recruiting and promoting individuals who demonstrate environmental consciousness (Jaffe et al., 2002). Such leadership-driven cultural alignment enables organizations to translate green values into innovative environmental practices.

The study further highlights the importance of resource management and regulatory compliance. Managers should closely monitor resource utilization, waste management, and energy consumption to

meet environmental regulations while improving green performance. Balancing cost-efficiency with investments in environmentally friendly technologies allows firms to comply with regulations without undermining competitiveness.

In addition, green initiatives supported by innovation create new market opportunities and competitive advantages. Organizations that adopt eco-friendly production processes and sustainable practices can differentiate themselves from competitors, enhance corporate reputation, and attract environmentally conscious customers. Integrating environmental considerations into strategic decision-making ensures that organizational policies, procedures, and long-term strategies remain aligned with green culture objectives.

A key implication of the findings is that green innovation acts as the primary mechanism through which green culture influences environmental performance. Managers should therefore actively promote green innovation by encouraging experimentation, learning, and employee participation in sustainability initiatives. Creating a supportive organizational environment where employees internalize green values enhances both innovation capability and environmental commitment.

From a social perspective, the findings suggest that organizations have a broader responsibility beyond internal performance outcomes. Manufacturing firms can contribute to community environmental awareness by organizing outreach programs focused on sustainability and environmental protection. Collaborations with universities and educational institutions can facilitate knowledge sharing and promote environmental literacy among students and the wider community.

By engaging in such initiatives, organizations can strengthen their social legitimacy and public reputation as environmentally responsible entities. Sharing best practices and emerging trends in sustainable business not only benefits society but also reinforces the organization's long-term credibility and trust among stakeholders.

Overall, the integrated managerial and social implications underscore that cultivating a strong organizational green culture, supported by continuous green innovation, benefits not only firm-level environmental performance but also broader societal sustainability objectives.

5.2. Conclusion

This study provides robust empirical evidence that green innovation is the critical mechanism through which organizational green culture influences environmental performance in a developing country context. By demonstrating full mediation, the findings advance sustainability and innovation literature while offering actionable insights for managers and policymakers.

5.3. Limitations and Directions for Future Research

Despite its contributions, this study is subject to several limitations that should be considered when interpreting the findings and that also offer avenues for future research.

First, the study was conducted within a single plastic manufacturing company located in a specific Board of Investment (BOI) zone in Sri Lanka, which may limit the generalizability of the results to other industries, organizational contexts, or geographic regions. Although Sri Lanka hosts numerous manufacturing firms across diverse sectors, organizational structures, and regulatory environments, the findings may not fully capture these variations. Future studies should therefore examine multiple organizations across different manufacturing sectors to enhance external validity.

Second, the research employed a cross-sectional design, with data collected over a relatively short period. Such a design restricts the ability to capture dynamic changes in organizational green culture, green innovation, and environmental performance over time. Longitudinal studies would allow researchers to observe how these relationships evolve and to establish stronger causal inferences.

Third, limited awareness and understanding of green organizational culture, environmental innovation, and sustainability practices among employees may have influenced respondents' perceptions and responses. Environmental regulations and sustainability concepts are still emerging within the Sri Lankan organizational and educational context, which could have resulted in response bias. Future research may benefit from incorporating awareness programs prior to data collection or including control variables that capture respondents' environmental knowledge.

Fourth, the high workload and time constraints commonly experienced by BOI manufacturing employees particularly in export-oriented firms may have affected the accuracy and depth of questionnaire responses. Alternative data collection strategies, such as staged surveys or interviewer-assisted administration, could improve response quality in future studies.

Finally, this study adopted a purely quantitative and descriptive approach, which limits deeper exploration of underlying behavioral and organizational mechanisms. Future research could adopt mixed-method designs, integrating qualitative techniques such as interviews or focus groups to gain richer insights into how green culture and innovation practices are developed and implemented within organizations.

In light of these limitations, future research should extend the model to multiple firms and industries, employ longitudinal and mixed-method approaches, and consider context-specific measurement instruments tailored to developing economies. Locally validated questionnaires, combined with cross-cultural comparisons, would further strengthen the robustness and applicability of findings related to organizational green culture, green innovation, and environmental performance.

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Work Ethics as Predictors of Employee Job Performance: Evidence from a Sri Lankan Local Government Institution

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Abstract

Work ethics play a vital role in shaping employee job satisfaction and overall organizational performance, particularly within public sector institutions where ethical standards and individual values may vary considerably. Understanding the relationship between work ethics and job performance is therefore essential for promoting sustainable growth in Sri Lankan government organizations. The purpose of this study was to examine the predictive relationship between work ethics and employee job performance in a Sri Lankan local government institution in the Western Province, grounded in Miller's Multidimensional Work Ethic Profile (MWEP).

Adopting a deductive and quantitative research approach, primary data were collected through a structured questionnaire based on the MWEP. A sample of 300 employees from various divisions of the organization was targeted using convenience sampling, yielding 278 valid responses (response rate: 92.7%). Statistical analysis was conducted using SPSS to examine relationships between key dimensions of work ethics, hard work, self-reliance, morality, and centrality of work, and job performance.

Multiple regression analysis revealed that work ethics significantly predict employee job performance, with all examined dimensions showing positive associations with performance outcomes (R^2 = .716). Centrality of work (β = .313) emerged as the strongest predictor, followed by self-reliance (β = .264), hard work (β = .178), and morality (β = .155).

The study provides context-specific insights for human resource practitioners and administrators within the Sri Lankan local government sector, contributing to the development of ethical and productive public institutions.

Keywords*: Work Ethics, Employee Job Performance, Hard Work, Self-Reliance, Morality, Centrality of Work, MWEP, Sri Lankan Public Sector*

1. Introduction

1.1. Research Problem

Work ethics have long been recognized as a fundamental driver of employee behavior, productivity, and organizational effectiveness. Work ethics refer to a system of values and moral principles that shape individuals' attitudes toward work, including diligence, responsibility, integrity, perseverance, and commitment. These values influence how employees perceive their roles, interact with colleagues, and fulfill their responsibilities within an organization (Osibanjo et al., 2015). In an era characterized by increasing demands for accountability, transparency, and efficiency, work ethics have become especially relevant for organizations seeking sustainable performance outcomes.

The importance of work ethics is particularly evident in public sector organizations, where employees function as custodians of public trust and resources. Unlike private sector institutions, public organizations are primarily driven by service delivery and social welfare rather than profit maximization. Consequently, ethical conduct and strong work values are essential for ensuring effective governance, equitable service provision, and public confidence in state institutions (Viswesvaran et al., 1998). Weak work ethics within public sector organizations can result in inefficiencies, reduced productivity, misuse of resources, and declining citizen satisfaction, ultimately undermining organizational legitimacy and national development objectives.

In the Sri Lankan context, local government institutions play a critical role in delivering essential public services, implementing policy decisions, and facilitating community development. Employee performance within these institutions directly affects service quality, administrative efficiency, and citizen satisfaction. However, observed variations in performance levels across public sector organizations suggest that differences in ethical orientations and work-related values may be a contributing factor. Understanding how specific dimensions of work ethics predict employee performance within Sri Lanka's public sector is therefore an important yet underexplored area of inquiry.

1.2. Justifications

This study is justified on three grounds. First, empirical research examining work ethics in non-Western public sector contexts remains limited. Much existing research has been conducted in Western economies or private sector environments, where organizational cultures, institutional arrangements, and performance expectations differ substantially from public sector organizations in developing countries. As a result, the generalizability of prior findings to non-Western public sector contexts remains uncertain. Cultural norms, socio-economic conditions, and governance structures may shape

how work ethics values are interpreted and enacted by employees, thereby influencing performance outcomes in unique ways.

Second, the specific dynamics of the Sri Lankan public sector, characterized by unique cultural values, governance structures, and service delivery challenges, warrant context-specific investigation. Sri Lanka's cultural context, rooted in Buddhist, Hindu, Christian, and Islamic traditions, shapes work values and ethical orientations in ways that may differ from Western conceptualizations. Understanding these context-specific relationships is essential for developing culturally appropriate management practices.

Third, understanding how work ethics predict job performance can inform evidence-based human resource practices aligned with Sri Lanka's Sustainable Development Goal commitments, particularly SDG 8 (Decent Work and Economic Growth). Ethical work behavior is closely aligned with the principles of decent work, including fairness, responsibility, and sustainable productivity. Investigating the role of work ethics in enhancing employee performance can thus provide valuable insights for administrators seeking to strengthen public sector governance and support national development objectives.

1.3. Scope and Significance

This study focuses on a major government organization in the Western Province of Sri Lanka, serving an urban population of approximately 500,000 residents and employing over 1,200 permanent staff across multiple service divisions including administration, finance, engineering, public health, and community development. The study examines the relationship between four dimensions of work ethics (hard work, self-reliance, morality, and centrality of work) and employee job performance among permanent employees.

The significance of this research lies in its contribution to both theory and practice. Theoretically, it extends the cross-cultural application of the MWEP framework and provides empirical evidence from a developing country's public sector context. Practically, the findings offer insights that may inform recruitment, training, and performance management systems within Sri Lankan local government institutions.

1.4. Research Aim and Questions

The primary aim of this study was to examine whether and to what extent work ethics predict employee job performance at a local government institution in Sri Lanka.

Research Questions:

- What is the impact of hard work on employee job performance at the government organization in Sri Lanka?

- What is the impact of self-reliance on employee job performance at the government organization in Sri Lanka?

- What is the impact of the centrality of work on employee job performance at the government organization in Sri Lanka?

- What is the impact of morality on employee job performance at the government organization in Sri Lanka?

Research Objectives:

- To analyze the impact of hard work on employee job performance at the government organization in Sri Lanka.

- To examine the impact of self-reliance on employee job performance at the government organization in Sri Lanka.

- To evaluate the impact of centrality of work on employee job performance at the government organization in Sri Lanka.

- To assess the impact of morality on employee job performance at the government organization in Sri Lanka.

2. Literature Review

Work ethics has emerged as a central construct in organizational behavior research, reflecting the moral principles and values that guide individuals' attitudes toward work and professional conduct. Contemporary organizations increasingly recognize that employee performance is not solely determined by technical competence or structural incentives but is deeply influenced by ethical orientations and value systems (Meriac, 2012). This literature review is grounded in Miller's Multidimensional Work Ethic Profile (MWEP), which conceptualizes work ethics as a multidimensional construct encompassing hard work, self-reliance, morality, and centrality of work (Miller et al., 2002). The MWEP provides a robust theoretical framework for understanding how ethical beliefs translate into observable workplace behaviors and performance outcomes.

This review synthesizes theoretical perspectives, empirical findings, and methodological approaches related to work ethics and job performance. It highlights what is known, identifies gaps in the literature, particularly in public sector and non-Western contexts, and justifies the present study's focus on Sri Lankan local government institutions.

2.1. Job Performance: Conceptualization, Dimensions, and Empirical Insights

Job performance refers to the extent to which employees effectively fulfill the duties and responsibilities associated with their roles. It is a foundational concept in human resource management and organizational psychology, serving as a key indicator of organizational effectiveness (Aroosiya & Ali, 2014). Early performance research focused narrowly on task output and efficiency; however, contemporary frameworks adopt a multidimensional perspective that better reflects the complexity of modern work environments.

Rotundo and Sackett (2002) proposed a widely accepted tripartite model of job performance, comprising task performance, contextual performance, and counterproductive work behavior. Task performance relates to core job responsibilities, contextual performance includes discretionary behaviors that support the organizational environment, and counterproductive behaviors refer to actions that harm organizational functioning. Adaptive performance has since been added to capture employees' ability to respond effectively to change, uncertainty, and novel demands (Pradhan & Jena, 2017).

Empirical studies consistently demonstrate that job performance is shaped by both individual and contextual factors, including motivation, leadership, organizational culture, and ethical climate (Valentine et al., 2011). Importantly, ethical orientations have been identified as a significant antecedent of performance, particularly in public sector organizations where accountability, transparency, and service quality are paramount (Dogbe et al., 2024).

Despite the extensive literature on job performance, several gaps remain. Much of the existing research relies on self-reported measures, raising concerns about common method bias. Additionally, performance studies are disproportionately concentrated in private sector or Western organizational contexts, limiting their applicability to public institutions in developing countries. These limitations underscore the need for context-specific research examining how ethical values influence job performance in public sector settings.

2.2. Work Ethics and the Multidimensional Work Ethic Profile

Work ethics refers to a system of moral principles and values that guide individuals' attitudes and behaviors toward work (Osibanjo et al., 2015). This study adopts Miller's Multidimensional Work Ethic Profile (MWEP) due to its comprehensive and empirically validated framework (Miller et al., 2002).

The MWEP originally comprises seven dimensions, but this study focuses on four, hard work, self-reliance, morality, and centrality of work, based on their particular relevance to public sector contexts. These dimensions directly relate to core public sector values such as diligence, accountability, ethical conduct, and commitment to service (Perry & Hondeghem, 2008).

2.3. Hard Work as a Dimension of Work Ethics

Hard work is one of the most frequently cited dimensions of work ethic and reflects a belief in the moral and instrumental value of effort, persistence, and dedication (Miller et al., 2002). Rooted in the Protestant Work Ethic tradition, hard work emphasizes disciplined effort as a pathway to personal growth and professional success (Mudrack, 1999). Within organizational settings, this dimension manifests as diligence, perseverance under pressure, and willingness to exceed formal job requirements.

Empirical research consistently links hard work to positive workplace outcomes. Employees who value hard work demonstrate higher levels of engagement, reliability, and goal orientation (Christian, Garza, & Slaughter, 2011). Organizations that recognize and reward diligent effort experience improvements in productivity, employee retention, and morale. Hard-working employees are also more likely to develop expertise through deliberate practice, contributing to sustained performance improvements (Ericsson et al., 1993).

However, prior research also identifies potential limitations. Overemphasis on effort without adequate attention to ethical safeguards and work-life balance can result in burnout, reduced job satisfaction, and counterproductive behaviors (Maslach et al., 2001). Moreover, many studies operationalize hard work using single-item measures, limiting construct validity and comparability across contexts.

In relation to job performance, hard work is widely regarded as a direct predictor of task completion, efficiency, and quality of output. Studies by Pradhan and Jena (2017) confirm that employees with strong hard-work orientations exhibit superior performance due to their persistence, attention to detail, and time management skills. Nevertheless, limited research has examined this relationship within public sector organizations in developing countries, where bureaucratic constraints may moderate the effort–performance link. Addressing this gap, the present study examines how hard work influences job performance in a Sri Lankan government organization context.

2.4. Self-Reliance and Ethical Work Behavior

Self-reliance refers to an individual's belief in their ability to work independently, take initiative, and assume responsibility for outcomes (Miller et al., 2002). Within the MWEP framework, self-reliance captures autonomy, accountability, and confidence—qualities increasingly valued in contemporary organizations operating under uncertainty and complexity.

Research suggests that self-reliant employees demonstrate proactive behaviors, effective problem-solving, and higher levels of personal accountability (Van Ness et al.,2010). In public sector environments, where procedural rigidity can delay decision-making, self-reliance enhances operational efficiency and innovation (Carter, 2017). Empirical studies indicate that self-reliant employees are more likely to accept challenges, learn from mistakes, and contribute constructively to organizational goals (Yu & Davis, 2016).

Despite its benefits, excessive self-reliance can undermine collaboration and knowledge sharing if not balanced with teamwork (Mannheim, Baruch, & Tal, 1997). Prior research often neglects this duality, treating self-reliance as uniformly beneficial. Additionally, many studies fail to distinguish between healthy autonomy and counterproductive individualism, limiting theoretical clarity.

From a performance perspective, self-reliance has been linked to higher task efficiency, adaptability, and leadership potential. Self-reliant employees require less supervision, manage time effectively, and demonstrate resilience under pressure, qualities directly associated with superior job performance. However, empirical evidence from public sector organizations, particularly in South Asian contexts, remains sparse. This study addresses this gap by examining the impact of self-reliance on employee job performance within a Sri Lankan local government institution.

2.5. Morality as a Core Ethical Dimension

Morality represents an individual's commitment to ethical principles such as honesty, fairness, integrity, and respect for others (Gbadamosi, 2004). Within the MWEP framework, morality guides ethical

decision-making and behavior, particularly in situations involving ambiguity or conflicting interests (Miller et al., 2002).

Extensive research highlights the role of morality in shaping organizational culture and employee conduct. Employees with strong moral orientations are less likely to engage in unethical behaviors such as fraud, misconduct, or abuse of resources (Mayer et al., 2012). Ethical workplaces characterized by fairness and transparency foster trust, collaboration, and psychological safety, which in turn enhance employee well-being and performance (De Cremer & Schminke, 2010).

However, morality research faces several methodological challenges. Many studies rely on self-assessments, which may be influenced by social desirability bias. Additionally, moral behavior is often examined independently of organizational systems, overlooking the interaction between individual ethics and institutional norms (Tenbrunsel & Smith-Crowe, 2008).

In relation to job performance, moral employees are more likely to comply with organizational policies, cooperate with colleagues, and contribute positively to organizational objectives (Valentine et al., 2011). Ethical behavior reduces counterproductive work behaviors and strengthens commitment, thereby enhancing both task and contextual performance. Despite these findings, limited empirical work has examined morality–performance relationships in public sector organizations within developing economies. The present study contributes to addressing this gap by analyzing how moral values influence job performance in an organizational setting.

2.6. Centrality of Work and Employee Performance

Centrality of work refers to the importance individuals attach to work relative to other life domains (Hirschfeld & Feild, 2000). High work centrality indicates that individuals view work as a core component of their identity and life purpose (Miller et al., 2002). This orientation is often associated with strong commitment, motivation, and perseverance.

Empirical studies demonstrate that employees with high work centrality exhibit greater engagement, job satisfaction, and organizational commitment (Mannheim, Baruch, & Tal, 1997). Such employees are more likely to internalize organizational goals, invest effort, and demonstrate resilience in demanding roles. Work centrality has also been linked to intrinsic motivation, which sustains performance even in the absence of external rewards (Linz & Chu, 2012).

Nevertheless, the literature also highlights potential risks. Excessive work centrality may lead to workaholism, burnout, and impaired ethical judgment (Carter, 2017). Prior studies often fail to distinguish between healthy commitment and maladaptive overinvestment, limiting theoretical nuance.

In terms of job performance, work centrality is positively associated with persistence, reliability, and quality of output. Employees who derive meaning from their work are more likely to demonstrate

sustained performance across task and contextual dimensions. However, empirical evidence from public sector organizations, particularly in developing countries, remains limited. This study seeks to examine how work centrality influences employee job performance within a Sri Lankan government organization, contributing to a more balanced understanding of this relationship.

The reviewed literature underscores the significant role of work ethics in shaping employee job performance. While prior studies provide valuable insights, several gaps persist. First, there is a lack of empirical research applying the MWEP framework in public sector organizations within developing countries. Second, existing studies often examine work ethic dimensions in isolation, neglecting their combined influence on job performance. Third, methodological limitations, including reliance on self-report measures and cross-sectional designs, constrain causal inference.

Addressing these gaps, the present study adopts a quantitative methodology using validated scales to examine the impact of hard work, self-reliance, morality, and centrality of work on job performance in a Sri Lankan local government context. By focusing on the government organization, the study contributes context-specific insights that extend existing theory and inform public sector management practice.

3. Methodology

This study employed a quantitative, deductive research design to examine the predictive relationships between work ethics and employee job performance within a Sri Lankan public sector organization.

3.1. Population and Sampling

The study population consisted of permanent employees across multiple departments of the selected local government institution. Using the Krejcie and Morgan (1970) sample size table, a target sample of 300 was determined. Questionnaires were distributed to 300 employees selected through convenience sampling. Of these, 278 usable responses were received, yielding a response rate of 92.7%. Twenty-two questionnaires were excluded due to incomplete responses (n=15) or insufficient attention patterns (n=7).

3.2. Conceptual Framework

The conceptual framework proposes that **work ethics** positively influence **employee job performance**.

Work ethics are operationalized through four independent dimensions derived from Miller's MWEP: hard work, self-reliance, morality, and centrality of work. Employee job performance is treated as a multidimensional dependent construct comprising task performance, contextual performance, adaptive performance, and counterproductive work behavior. The model assumes both individual and combined effects of ethical dimensions on performance outcomes, consistent with ethical behavior and organizational performance theories.

3.3. Hypotheses

The following hypotheses are developed in this study, based on the conceptual framework

Figure 6: Conceptual Framework (Miller et al., 2002; Rotundo & Sackett, 2002)
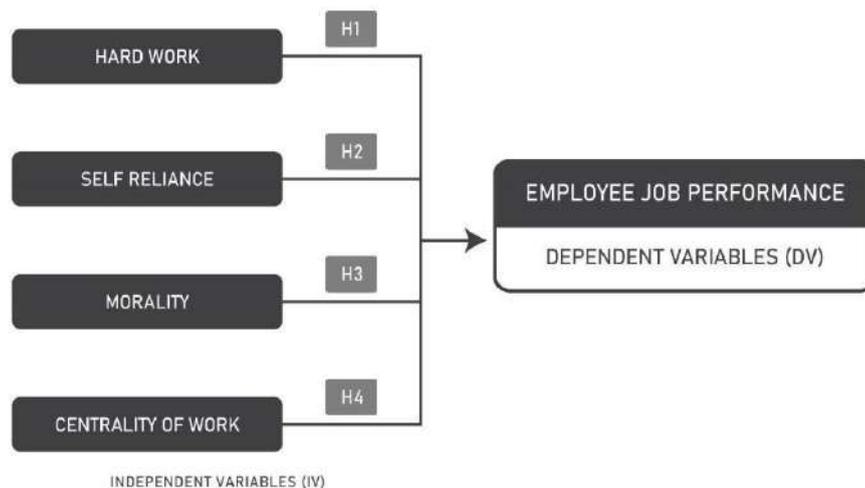
- H1: There is an impact of Hard Work and Employee Job Performance

(Davis (2019) and Eisenberger et al. (2005) indicate that valuing hard work enhances employee responsibility, efficiency, and performance outcomes.)

- H2: There is an impact of Self-Reliance and Employee Job Performance

(The presence of self-reliance in employees, marked by independent decision- making and responsibility, is linked to higher levels of innovation and leadership success. (Yu & Davis, 2016)

- H3: There is an impact of Morality and Employee Job Performance

(Research indicates that ethical workplace behavior strengthens trust and cooperation between colleagues, which subsequently enhances group performance and work output (Mayer et al., 2012; Miller et al., 2002)

- H4: There is an impact of Centrality of Work and Employee Job Performance

(The degree to which employees value their work roles shows significant positive relationships with commitment attitudes, engagement states, and performance results. (Mannheim, Baruch, & Tal, 1997; Williams & Patel, 2022).

These hypotheses are formulated based mainly on the previous research conducted by Miller et al.(2002) and Osibanjo et al. (2015) which propose work ethics as a multidimensional construct that influences job performance. The study will use quantitative techniques to test their relevance in a particular organizational setting.

5.3.1. Operationalization

Table 13: Operationalization

Variables	Measure	Source	Scale	Items
Hard work	Satisfaction Fulfilment Achievement Effort Success	(Miller et al., 2002)	Likert scale	**5**
Self-reliance	Foundation Independence Value Responsibility Judgement	(Miller, Woehr, & Hudspeth, 2002)	Likert scale	**5**
Morality	Respect Fairness gratification	(Gorman, & Thomas, 2013) (Miller et al.,2002)	Likert scale	**5**
Centrality of work	Leisure Relaxation Productivity Efficiency	(Miller et al., 2002)	Likert scale	**5**
Job Performance	Task performance Contextual performance Adaptive performance Counterproductive work behavior	(Rotundo & Sackett, 2002)	Likert scale	**5**

3.4. Ethical Considerations

This study adhered to ethical research principles throughout its conduct. Ethical approval was obtained from the university ethics committee prior to data collection. Written permission was obtained from the relevant government authority. All participants provided written informed consent after being briefed on the study's purpose and their rights. Participation was voluntary, and anonymity was assured through coded questionnaires with no identifying information. Data were stored securely and used solely for research purposes.

4. Data Analysis and Discussion

4.1. Descriptive Analysis of Respondents

Descriptive statistics revealed that the sample was predominantly male (66.9%), reflecting the gender composition commonly observed in Sri Lankan local government institutions. The largest proportion of respondents (49.8%) fell within the 26–35 age group, indicating a relatively young workforce in early to mid-career stages. A majority of respondents were married (59.4%), suggesting the presence of family responsibilities that may influence work attitudes and behavior.

In terms of work experience, 74.0% of respondents reported more than five years of service, indicating a workforce characterized by institutional familiarity and job stability. This demographic diversity supports the representativeness of the sample and provides a solid basis for examining variations in ethical orientation and job performance.

4.2. Descriptive Findings on Study Variables

The descriptive analysis of study variables indicated that respondents reported **above-average mean scores** across all dimensions of work ethics, hard work, self-reliance, morality, and centrality of work. Similarly, employee job performance dimensions also recorded favorable mean values, suggesting generally positive self-assessments of performance-related behaviors.

Notably, the highest levels of agreement were observed in the dimensions of **self-reliance** and **centrality of work**, highlighting employees' confidence in independent task management and the importance placed on work in their lives.

4.3. Reliability Analysis

Table 14: Reliability Analysis

Variable	Cronbach's Alpha
Hard work	0.830
Self reliance	0.867
Morality	0.859
Centrality of work	0.881
Job performance	0.889

Reliability testing using Cronbach's alpha confirmed strong internal consistency across all constructs. As shown in **Table 2**, Cronbach's alpha values ranged from 0.830 (hard work) to 0.889 (job performance), exceeding the recommended threshold of 0.70 (Hair et al., 2019). These results indicate that the measurement instruments were reliable and suitable for further inferential analysis.

4.4. Correlation Analysis

Pearson correlation analysis revealed **significant positive relationships** between all dimensions of work ethics and employee job performance at the 0.01 significance level (see **Table 3**). Centrality of work exhibited the strongest correlation with job performance (r = 0.802), followed by self-reliance (r = 0.785), hard work (r = 0.777), and morality (r = 0.771). These findings suggest that employees who demonstrate stronger ethical orientations tend to report higher levels of job performance.

Table 15: Correlation Analysis

Correlation					
	Hard work	**Self- Reliance**	**Morality**	**Centrality of work**	**Job Performance**
Hard work	1	.814**	.793**	.836**	**.777****
Self-reliance	.814**	1	.811**	.801**	**.785****
Morality	.793**	.811**	1	.833**	**.771****
Centrality of work	.836**	.801**	.833**	1	**.802****
Job Performance (DV)	.777**	.785**	.771**	.802**	**1**

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

4.5. Multiple Regression Analysis

Table 16: Multiple Regression Analysis

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.031	4	12.258	173.041	**<.001ᵇ**
	Residual	19.480	275	.071		
	Total	68.511	279			

a. Dependent Variable: DV1_Finalmeanvalue

b. Predictors: (Constant), IV4_Finalmeanvalue, IV2_Finalmeanvalue, IV3_Finalmeanvalue, IV1_Finalmeanvalu

Multiple regression analysis was conducted to assess the combined and individual effects of work ethic dimensions on job performance. The ANOVA results (Table 4) confirmed that the overall model was statistically significant (F = 173.041, p < .001), indicating that the independent variables collectively explained a significant proportion of variance in job performance.

Table 17: R Square

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.846ᵃ	.716	.712	**.26615**

a. Predictors: (Constant), IV4_Finalmeanvalue, IV2_Finalmeanvalue,

IV3_Finalmeanvalue, IV1_Finalmeanvalue

The model summary (Table 5) showed an **R² value of 0.716**, indicating that approximately **71.6% of the variance in employee job performance** was explained by hard work, self-reliance, morality, and centrality of work. This reflects a strong predictive capability of the model.

Table 18: Coefficient estimates

Predictor	B	Beta	t	p
(Constant)	0.203	—	1.292	.197
Hard Work	0.200	.178	2.690	.008
Self-Reliance	0.275	.264	4.143	<.001
Morality	0.158	.155	2.376	.018
Centrality of Work	0.313	.313	4.520	<.001

Note. R-squared = .716, p < .001

Coefficient estimates (Table 6) revealed that **centrality of work (β = 0.313)** had the strongest positive effect on job performance, followed by **self-reliance (β = 0.264)**, **hard work (β = 0.178)**, and **morality (β = 0.155)**. All predictors were statistically significant (p < .05), leading to the acceptance of all alternative hypotheses (H1–H4), as summarized in **Table 7**.

Table 19: Summary of Hypothesis

Independent Variables	P Value	Decision	Explanation
Hard Work	0.008	H1 is accepted (p-value is less than alpha) H0 is Rejected	Hard Work has a significant impact on job performance
Self-Reliance	0.001	H1 is accepted (p-value is less than alpha) H0 is rejected	Self-reliance has a significant impact on job performance
Morality	0.018	H1 is accepted (p-value is less than alpha) H0 is rejected	Morality has a significant impact on job performance

| Centrality of work | 0.001 | H1 is accepted (p-value is less than alpha) | Centrality of work has a significant impact on the job |
| | | H0 is rejected | performance |

The findings of this study provide strong empirical support for the proposition that work ethics significantly influence employee job performance in the public sector. The strong association between **centrality of work and job performance** aligns with Miller et al. (2002), who argue that individuals who perceive work as a central life interest are more committed, productive, and performance-oriented. This finding is also consistent with international studies that link work centrality to organizational citizenship behavior and reduced counterproductive behaviors (Hirschfeld & Feild, 2000).

The significant impact of **self-reliance** on job performance supports prior research emphasizing autonomy and responsibility as critical drivers of employee effectiveness (Deci & Ryan, 2000). In public-sector contexts, where bureaucratic constraints often limit flexibility, self-reliant employees may be better equipped to manage tasks efficiently and adapt to operational challenges.

Similarly, the positive effect of **hard work** reinforces classical work ethic theories that associate effort and perseverance with performance outcomes (Weber, 1905/2002). The findings suggest that employees who value diligence and persistence contribute more effectively to task completion and service delivery.

Although **morality** exhibited the weakest standardized effect among the four dimensions, it remained statistically significant, underscoring the importance of ethical conduct, fairness, and integrity in enhancing collaboration and reducing counterproductive work behavior. This aligns with public-sector ethics literature, which emphasizes morality as foundational to trust, accountability, and service quality (Perry & Hondeghem, 2008).

Overall, the results extend existing literature by providing **context-specific evidence from Sri Lanka's local government sector**, a setting that has received limited empirical attention.

4.6. Limitations of the Study

Despite its contributions, this study has several limitations. First, the use of **convenience sampling** limits the generalizability of findings beyond the selected organization. Second, the reliance on **self-reported data** may introduce common method bias and social desirability effects, potentially inflating reported ethical behavior and performance levels. Third, the **cross-sectional design** restricts the ability to establish causal relationships between work ethics and job performance over time.

5. Conclusion

This study investigated the relationship between work ethics and employee job performance within a Sri Lankan government organization, adopting a Multidimensional Work Ethic Profile (MWEP) framework. Specifically, the study examined four core dimensions of work ethic, hard work, self-reliance, morality, and the centrality of work, and their association with job performance using a cross-sectional survey design and quantitative analysis. Drawing on data from approximately 278 government employees across multiple departments, the findings provide robust empirical support for the ethical–performance linkage in a Sri Lankan public sector context.

The results demonstrate that all four work ethic dimensions are positively and strongly correlated with employee job performance, indicating that employees who hold stronger ethical orientations tend to perform better in their roles. The multiple regression model explained a substantial proportion of variance in job performance ($R^2 = .716$), underscoring the practical significance of work ethics as a performance-enhancing factor. Among the four dimensions, self-reliance and the centrality of work emerged as the strongest predictors, suggesting that employees who demonstrate autonomy, personal responsibility, and a strong psychological attachment to work are more likely to exhibit higher levels of performance. Although hard work and morality were comparatively weaker predictors, both remained statistically significant, reaffirming their continued relevance in shaping employee behavior and outcomes.

These findings align closely with prior theoretical and empirical research that positions work ethics as a foundational driver of individual and organizational performance. Importantly, this study extends the existing literature by contextualizing these relationships within a public sector organization in a developing country, a setting that has received relatively limited scholarly attention. In doing so, the study contributes context-specific evidence that reinforces the applicability of the MWEP framework beyond Western and private-sector environments.

From a practical perspective, the results offer valuable insights for public sector leaders and human resource practitioners. Understanding that ethical orientations, particularly self-reliance and work centrality, play a critical role in performance can inform recruitment, training, and performance management systems. Organizational interventions that promote ethical awareness, autonomy, responsibility, and meaningful engagement with work may enhance both productivity and employee well-being. Furthermore, fostering ethical climates grounded in integrity, loyalty, and fairness can strengthen trust and cooperation, thereby improving overall institutional effectiveness in government organizations.

Despite its contributions, the study is subject to several limitations that should be acknowledged. First, the use of a single-organization sample and convenience sampling restricts the generalizability of the findings. Second, the cross-sectional design and reliance on self-reported measures introduce the risk

of common method bias and preclude causal inference. Third, although the MWEP framework was employed, only four dimensions were examined, while other potentially influential dimensions such as time management and delay of gratification were excluded. Additionally, minor inconsistencies between the planned and realized sample size highlight the need for greater transparency in reporting.

Building on these limitations, several directions for future research are recommended. Future studies should enhance external validity by employing probabilistic sampling techniques across multiple public sector institutions and incorporating private sector comparisons. Longitudinal research designs and multi-source performance measures, such as supervisor ratings or objective key performance indicators, would help mitigate common method bias and strengthen causal interpretations. Expanding the conceptual model to include additional MWEP dimensions, mediating mechanisms (e.g., work engagement), and moderating factors (e.g., ethical leadership and organizational culture) would further enrich theoretical understanding. Finally, greater methodological transparency through pre-registration, clear reporting of response rates, and reconciliation of sample sizes is encouraged.

In conclusion, this study provides compelling evidence that work ethics, particularly self-reliance and the centrality of work, are powerful predictors of employee job performance in the Sri Lankan public sector. By addressing existing gaps and offering a platform for future inquiry, the findings contribute meaningfully to both theory and practice in the fields of work ethics and public sector performance management.

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APPENDICES

Appendix A: Questionnaire

THE IMPACT OF WORK ETHICS ON EMPLOYEE JOB PERFORMANCE: A CASE FROM THE SRI LANKAN GOVERNMENT ORGANIZATION

Dear Respondent,

I am an undergraduate student at The National School of Business Management (NSBM), Faculty of Business, specializing in BSc Business Management (Project Management) (Special). As part of my academic program, I am conducting research on the relationship between work ethics and job performance among employees at the Sri Jayewardenepura Kotte Municipal Council, Sri Lanka.

Your participation in this study is highly valued. Please rest assured that all responses will remain anonymous, confidential, and used solely for academic purposes.

Kindly provide accurate responses by selecting the most appropriate option for each question.

Your time and cooperation in completing this questionnaire are greatly appreciated. Thank you for contributing to this research.

Yours faithfully,

K.U.S. Silva.

<u>Demographic characteristics</u>

Please tick the appropriate box.

Gender :

- Male ☐
- Female ☐

Age :

- Below 25yrs ☐
- 26yrs-35yrs ☐
- 36yrs-45yrs ☐
- Above 45yrs ☐

Marital Status:

- Single ☐
- Married ☐

Work Experience:

- Less than 1 Years ☐
- 1 to 3 Years ☐
- 3 to 5 Years ☐
- More than 5 Years ☐

Please indicate your level of agreement, ranging from 'Strongly Disagree' to 'Strongly Agree,' for the following statements related to various factors of employees' job performance.

(SA- Strongly Agree, A- Agree, N- Neutral, D- Disagree, SD- Strongly Disagree)

NO	Statements	Rating				
		SA	A	N	D	SD
1.	I feel satisfied when I have accomplished a day's work.					
2.	I derive a strong sense of fulfillment from working.					
3.	Completing a challenging day's work brings a deep sense of achievement.					
4.	Success is achieved through consistent and diligent effort.					
5.	Hard work is a proven path to success.					
6.	Success is built on the foundation of self-reliance.					
7.	I aim to develop self-reliance as a core value.					
8.	Independence is crucial for shaping one's own future.					
9.	Responsibility for one's actions is a cornerstone of personal and professional growth.					

10.	It is important to withhold judgment until all relevant information is considered.					
11.	It is important to always treat others the way you wish to be treated, as it fosters mutual respect.					
12.	It is essential to treat others with fairness and integrity in all dealings.					
13.	Delayed gratification often leads to a deeper sense of fulfillment					
14.	Long-term rewards tend to bring greater satisfaction than short-term gains.					
15	The most meaningful achievements often require time and patience.					
16	I value job roles that offer more personal time.					
17	Increased leisure time enhances overall well-being and quality of life.					
18	A greater emphasis on relaxation would lead to a healthier and more harmonious society.					
19	Leisure time is a vital component of a healthy and fulfilling life.					
20	Staying productive and avoiding time-wasting activities is crucial in the workplace.					
21	I completed my work in a timely and effective manner.					
22	I actively pursued opportunities to take on new and challenging tasks.					

23	I developed innovative solutions to address new challenges.					
24	I volunteered for extra tasks to contribute beyond my role.					
.25	I occasionally made small issues seem larger than they truly were.					

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