

RAJARATA JOURNAL OF SOCIAL SCIENCES

Volume 7

Number 1

2023

EDITORIAL NOTE

Mr. Prabhash Siriwardhana

Editor-in-Chief
Rajarata Journal of Social Sciences
Rajarata University of Sri Lanka

RESEARCH ARTICLE

Factors influencing digital financial inclusion of rural undergraduates in Sri Lanka

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Department of Economics and Statistics, Sabaragamuwa University of Sri Lanka
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Impact of generational cohorts on online consumer Behaviour

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A Study on The Impact of Social Media Use on The Formal Education of Undergraduates in Public Universities in Sri Lanka

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Gender-Based Discrimination in Kollywood Films: An In-depth Analysis of Portrayals and Impact

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Synergy of Tradition and Innovation: Exploring Practitioners' Perspectives on Integrating Modern Technology into Traditional Medicine

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Department of Social Sciences
Faculty of Social Sciences and Humanities
Rajarata University of Sri Lanka Mihintale,
Sri Lanka.
2023

RAJARATA JOURNAL OF SOCIAL SCIENCES

Volume 7

Number 1

2023

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The Department of Social Sciences

ISSN 2362-0366

Published by the Department of Social Sciences

Faculty of Social Sciences and
Humanities Rajarata University of Sri
Lanka Mihintale, Sri Lanka.
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RAJARATA JOURNAL OF SOCIAL SCIENCES

AIM AND SCOPE

The Rajarata Journal of Social Sciences is a peer-reviewed journal published by the Department of Social Sciences, Faculty of Social Sciences and Humanities, Rajarata University of Sri Lanka. This journal publishes empirical research and review papers in the inclusive coverage of the area of Social Sciences. The scope of this journal covers the diversity of the contemporary research falling in the broader discipline of Social Sciences.

At present, it is obvious that the real academic explorations relevant to the field of Social Sciences and Humanities and other fields are inadequate. It is also apparent that this has resulted in the decline of the new academic innovations that will contribute to the modern Social Promotion. Hence, the main aim of this journal is to build the platform for the academics and researchers to publish innovative and original scholarly work in the field of Social Sciences.

The Journal is to be published in two issues a calendar year in June and December and only accepts the articles written in English. This journal facilitates immediate open access to the public allowing freely available access and global exchange in the wider world of knowledge in the field of Social Sciences.

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Editorial Note

Prabhash Siriwardhana
Editor-in-Chief
Rajarata Journal of Social Sciences
Rajarata University of Sri Lanka

Welcome to the recent edition of the *Rajarata Journal of Social Sciences*, our journal continues to serve as a platform for the dissemination of insightful and innovative research, contributing to the growing body of knowledge in the social sciences. We are committed to fostering academic excellence and providing a space for scholars to share their findings with a broader community.

This volume presents a collection of thought-provoking studies that delve into contemporary issues across various disciplines within the social sciences. From exploring digital financial inclusion among rural undergraduates to examining the intersection of technology and education, Also, through this research journal, cinematic interpretations of gender and sociality are presented, and research interpretations are also presented on social issues reflected through artistic society, these articles address critical aspects of our rapidly evolving society. They also shed light on consumer behavior trends influenced by generational differences and analyze cultural representations in media and their societal impacts.

These research contributions are not only academically enriching but also offer practical implications, providing valuable insights for policymakers, educators, and industry practitioners. The multidisciplinary approach of this edition underscores the importance of collaborative efforts in addressing societal challenges and advancing knowledge.

On behalf of the editorial board, I extend my heartfelt gratitude to the authors, reviewers, and contributors for their unwavering dedication and scholarly rigor. I trust that this edition will inspire meaningful dialogue and further inquiry among our readers.

Thank you for your continued support of the **Rajarata Journal of Social Sciences**, and I invite you to explore the articles within this volume.

Yours sincerely,

Prabhash Siriwardhana
Editor-in-Chief
Rajarata Journal of Social Sciences
Rajarata University of Sri Lanka

FACTORS INFLUENCING DIGITAL FINANCIAL INCLUSION OF RURAL UNDERGRADUATES IN SRI LANKA

L.V.S.K. De Mel¹ , H.M.S. Priyanath²

Abstract

Digital financial inclusion is a key facilitator for many sustainable development goals and promotes sustainable economic growth contributing to poverty reduction and enhancing the financial intermediation offering financial services through digital channels to people in society. This study attempts to examine factors that affect digital financial inclusion among rural undergraduates in Sri Lanka. To achieve this purpose, the study collected primary data from 143 rural undergraduates from government universities in Sri Lanka through a structured online questionnaire. Data analysis was done using mainly Partial Least Square Structural Equation Modeling. The study tested four hypotheses and only three hypotheses were accepted. The results revealed that household income, infrastructure facilities, and digital financial literacy significantly, and positively affect digital financial inclusion among rural undergraduates in Sri Lanka. The results further disclosed that demographic factors such as age and gender have not significantly affect digital financial inclusion among rural undergraduates in government universities in Sri Lanka. Thus, this study provides new empirical evidence to the academic literature by proving the factors that affect digital financial inclusion among rural undergraduates by providing recommendations to both the unit of analysis and the policymakers to enhance access, usage, and quality of digital financial services..

Keywords: Digital Financial Inclusion, Digital Financial Literacy, Digital Financial Services, Household Income, Infrastructure Facilities.

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Introduction

Financial inclusion is defined as the offering of basic financial services to rural and financially excluded individuals in society (Malladi et al., 2021). In this age of technology, financial inclusion moves to digital financial inclusion (Soekarno et al., 2020) and it is known as the newest stage of financial inclusion. Digital financial inclusion refers to providing of digital financial services to financially excluded and underprivileged people in society (Saxena & Thakur, 2022). Nevertheless, “financial exclusion” refers to the inability to access every person in society to financial services or their knowledge is insufficient to utilize those services (Kabakova & Plaksenkov, 2018). Also, Chen and Yuan (2021) highlighted that currently, it is a complex problem influencing developed and developing nations and thus, financial inclusion is a dominant trick in the development of the financial sector which leads to minimizing poverty and expansion of the economy. The use of digital technologies and tools has become a popular method for countries to develop financial inclusion and improve people’s well-being (Ozili, 2023). Most financial and banking institutions use digital platforms and tools to provide customers with easy access and use of quality financial products and services in Sri Lanka. However, some individuals may face obstacles in accessing and using digital platforms, infrastructure, and digital tools to achieve their financial needs, particularly among rural and underprivileged populations. Also, compared to other developed and developing economies, Sri Lanka’s digitization is still lagging (Sandaruwani, 2021). To determine economic and financial growth, financial inclusion performs a leading role in an economy and it has the potential to generate benefits by changing the financial patterns of poor people in particular (Madukala & Silva, 2022).

In recent years, Sri Lanka has faced burning issues in all sectors of the economy, which have threatened every person in society (Badullahewage, 2019). Young rural undergraduates are considered the most important part of human capital and will play a key role in economic growth and development. Previous researchers (Mugume & Bulime, 2022; Wandeda et al., 2023; Bathula & Gupta, 2021) are have primarily focused on individuals, women, and rural households as a unit of analysis to identify factors influencing digital financial inclusion. However, it is critical to understand the factors influencing digital financial inclusion among rural undergraduates as part of future economic growth and development. Accordingly, this study aims to examine the factors that affect digital financial inclusion among rural undergraduates who are part of rural communities. Most scholars used secondary data to examine factors affecting digital financial inclusion (Wandeda et al., 2023; Li & Liu, 2023; Alwahidin et al., 2023; Bathula, & Gupta, 2021; Li, & Liu, 2023; Ali, & Ghildiyal, 2023). Therefore, to fill that gap the study focused on primary data which is more reliable data to enhance the accuracy of the study. To achieve the primary objective of this study, rural undergraduates in government universities in Sri Lanka were used by employing snowball sampling techniques through the online structured questionnaire. Accordingly, this study will create more opportunities for rural undergraduates and their communities to create economic significance to ensure future economic growth and development in Sri Lanka. Also, this will help policymakers working in this area of digital financial inclusion to make appropriate policies and decisions to promote access and use of quality digital financial services.

Literature review

Financial inclusion is the availability and accessibility of financial products and services that suit the needs and preferences of individuals and businesses responsibly and sustainably (World Bank, 2022). Gamage and Kumudumali (2019) explained that financial inclusion is an indicator of poverty reduction and it improves business activities and household welfare of a country. Digital financial inclusion broadly refers to the use of digital financial services to advance financial inclusion (European Central Bank, 2023). Also, digital financial inclusion is defined as the provision of digital financial services to financially excluded people using mobile phones or other digital devices to enhance their access to digital financial services (Ozili, 2018). Digital financial inclusion provides easy to accessible to formal financial services to the population (Saxena & Thakur, 2022). After developing microcredits, microfinance, and financial inclusion, digital financial inclusion is the fourth level in the financial revolution (Wang & He, 2020). Ozili (2022) revealed that the goal of digital financial inclusion is to reduce poverty, increase financial intermediation, and achieve sustainable development goals by providing financial services through digital channels to all segments of the population. Saxena and Thakur (2022); and Ozili (2022) stated that digital devices, retail agents, additional financial services, a digital transactional platform, the backend server, and customers can be considered as major components of digital financial inclusion. Digital financial literacy (DFL) is also can be treated as an important component of digital financial inclusion (Saxena & Thakur, 2022). E-money accounts, debit cards, credit cards, mobile money, internet banking, retail point of Sale (POS) terminals, and agent networks can be considered instruments for digital financial inclusion (Ozili, 2022). As per CGAP (2015), there are four broad types of providers of digital financial services for digital financial inclusion. The first provider is a full-service bank that provides an unlimited range of digital financial services offering basic transaction accounts for digital payments, transfers, and value storage with the use of digital devices like mobile devices, payment cards, or point-of-sale (POS) terminals. The Second provider is a limited-service bank, it provides a limited or specific range of financial services through digital devices. A Mobile Network Operator (MNO) e-money issuer is the third provider while the fourth provider is a nonbank non-MNO e-money issuer. According to Ozili (2022), there is a wide range of benefits of digital financial inclusion such as providing all kinds of financial products, promoting economic empowerment, increasing participation of women, lowering the cost for the population, and promoting growth of the economy.

Mugume and Bulime (2022) found that in Kenya and Uganda, digital financial inclusion is higher among middle-aged male digital users who have more SIM cards registered in their names and those who trust mobile money agents are more likely to use digital financial platforms than others. Wandeda et al. (2023) point out that Kenyan women who use digital finance are more likely to be financially healthy. However, Bathula and Gupta (2021) found that being female and poor reduces the likelihood of using mobile banking but does not affect traditional banking in India. Ali and Ghildiyal (2023), show that men with higher age, education, employment status, and higher income are more likely to use digital financial

services among adult individuals in India. Kandari et al. (2021) found that women are more vulnerable than men in terms of both mobile phone usage and availing credits among rural households in India. The attitude and behavior of working women toward digital financial services are positive in India (Kumar & Vasuki, 2023). According to Bathula and Gupta (2021), education and workforce participation are positively associated with the access and use of most digital financial services. Li and Liu (2023) explain that digital financial inclusion can contribute to the enhancement of residents' total income and income from different sources. Also, Narmadha (2021) highlighted that India has a large amount of financially excluded population that owns a mobile device and can access digital financial services via mobile phones. Additionally, Conrad et al. (2019) noted that people who are younger, wealthier, more educated, and more internet savvy are more likely to use internet banking, especially in urban areas. Ali and Ghildiyal (2023) assert that there is a significant association between factors such as gender, age, education, occupation, and income with the use of digital financial services among individuals. Evans (2022), explains that social factors like literacy, infrastructure, unemployment rate, and standard of living have a significant impact on digital financial inclusion. Also, digital finance can significantly boost household consumption, especially for the underprivileged (Alwahidin et al., 2023). Tony and Desai (2020) revealed that digital financial literacy has an impact on digital financial inclusion and their relationship is strong. Nandru et al. (2021) also, state that the factors such as gender, age, education, income, and employment status have a significant effect on the usage of digital financial transactions. The OECD (2020), mentioned that in Mexico the geographical location plays a significant role in youth's access to financial products. It also expressed that, geographical barriers affecting access to financial services will be overcome by the provision of digital services.

Most scholars have discussed social, demographic, economic, and institutional factors or determinants of digital financial inclusion with the use of a quantitative research method approach (Yakubi, et al., 2022; Anane, & Nie, 2022; Thathsarani, & Jianguo, 2022; Conrad, et al., 2019; Tony, & Desai, 2022; Nandru, et al., 2021). Other than that Kumar and Vasuki (2023) used a mixed approach combination of both quantitative and qualitative methods. Also, most scholars used secondary data collection methods especially using the Financial Access Survey 2021 (Wandeda et al., 2023), China Household Financial Survey (CHFS) (Li & Liu, 2023), Central Statistics Agency (BPS) & Indonesian Family Life Survey (IFLS) (Alwahidin et al., 2023) and World Bank Global Findex Database (Bathula, & Gupta, 2021; Li, & Liu, 2023; Ali, & Ghildiyal, 2023). Some researchers used primary data collection method using the well-structured questionnaire (Narmadha, 2021; Thathsarani, & Jianguo, 2022; Kandari, et al., 2021; Tony, & Desai, 2020; Saxena, & Thakur, 2022). They used five-point Likert scale questions in their questionnaire. India (Bathula, & Gupta, 2021; Narmadha, 2021; Ali, & Ghildiyal, 2023; Tony, & Desai, 2020; Kumar, & Vasuki, 2023; Nandru, et al., 2021), Kenya (Mugume, & Bulime, 2022; Wandeda, et al. 2023), Uganda (Mugume & Bulime, 2022), China (Li & Liu, 2023), Ghana (Anane & Nie, 2022), Germany (Conrad et al., 2019), Africa (Evans, 2022), Indonesia (Alwahidin et al., 2023) and Sri Lanka (Thathsarani & Jianguo, 2022) are the countries many scholars have used as their unit of analysis. If concerned the analyzing technique most scholars used qualitative response regression models (probability models) including the probit model (Wandeda, et al., 2023; Bathula, & Gupta, 2021; Nandru, et al., 2021), logit model (Anane & Nie, 2022). Additionally, the linear regression model (Yakubi, et

al., 2022; Alwahidin, et al., 2023), Panel data analysis (Rekha et al., 2021), and partial least squares approach (Thathsarani & Jianguo, 2022) to analyze the data. Also, as sampling techniques, Kandari et al. (2021) used stratified and judgmental sampling techniques.

The literature on factors that affect digital financial inclusion is limited. According to the researcher's best understanding and knowledge, there is a lack of empirical evidence in the Sri Lankan context related to the current study. Most of the existing studies more focusing on financial inclusion rather than digital financial inclusion. Most scholars have used secondary data rather than primary data which is more reliable data to identify factors that affect digital financial inclusion. Therefore, this study aims to fill these gaps by using the primary data collection method focusing on a unique unit of analysis in the Sri Lankan context instead of households and individuals that many researchers focused on.

Conceptual framework & hypotheses

According to the evidence provided by the literature, the factors that affect digital financial inclusion can be identified. Ali and Ghildiyal (2023) revealed that there is a significant association between the demographic characteristics of individuals such as gender and age with the use of digital financial services. Alwahidin et al. (2023) highlighted that a socioeconomic factor like increasing family or household income is broad access to digital financial services. Most scholars revealed that the development of infrastructures leads to improving the access to and usage of digital financial services (Evans, 2022; Khera, et al., 2021; Liu, et al., 2021). Digital financial literacy is another key factor in determination of the digital financial inclusion (Khera et al., 2021) and digital financial literacy strongly impacts digital financial inclusion (Tony & Desai, 2020). Thus, this study's dependent variable can be considered as digital financial inclusion and independent variables are demographic factors (age, gender), household income, infrastructure, and digital financial literacy. Therefore, the study's conceptual framework is represented in Figure 1 as follows:

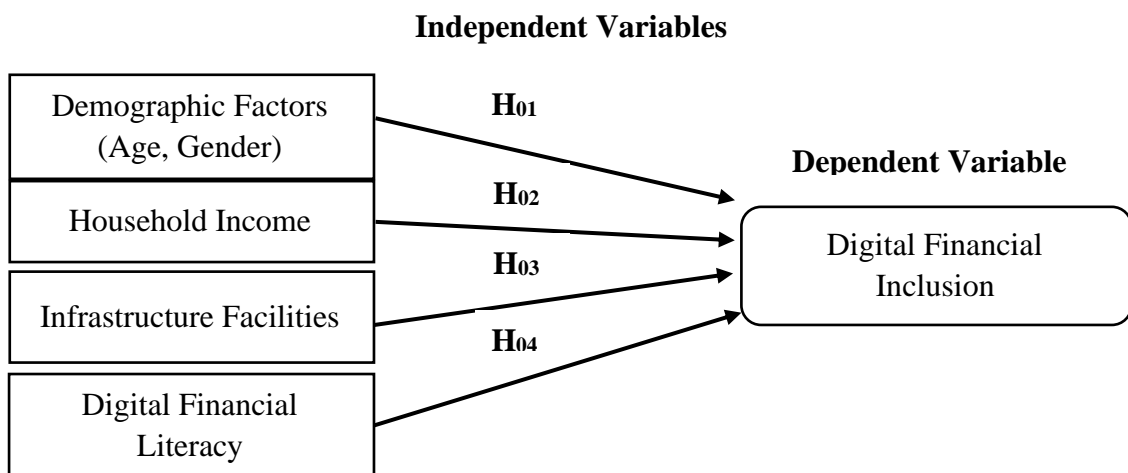


Figure 1: Conceptual Framework

Scholars have discussed that demographic factors such as age (Mugume & Bulime, 2022) and gender (Bathula & Gupta, 2021) significantly affect digital financial inclusion. Also, Ali and Ghildiyal (2023) revealed that there is a significant association between the demographic characteristics of individuals such as gender and age with the use of digital financial services. Moreover, Nandru et al. (2021) also, state that the factors such as gender and age have a significant effect on the usage of digital financial transactions. Therefore, can conclude that demographic factors such as age and gender significantly affect digital financial inclusion among rural undergraduates in Sri Lanka.

H₀₁: Demographic factors such as age and gender significantly affect digital financial inclusion among rural undergraduates in Sri Lanka

Household income is a socioeconomic factor that impacts digital financial inclusion. Having more income leads to investing or saving digitally using digital financial services. Liu and Lu (2023) highlighted that the development of financial inclusion reduces poverty in families by alleviating income inequality. It implied that access and usage of more financial products and services reduces poverty. According to Alwahidin et al. (2023), an increase in household income is a broad access to digital financial services. Additionally, digital financial inclusion improves the income level of family financial investments and enhances family investment decision-making (Li et al., 2022). Therefore, can conclude that household income significantly affects digital financial inclusion among rural undergraduates in Sri Lanka.

H₀₂: Household income significantly affects digital financial inclusion among rural undergraduates in Sri Lanka.

If there are well-developed infrastructure facilities leads to more access to and usage of digital financial services. Evans (2022), revealed that as a social factor, infrastructure has a significant influence on digital financial inclusion. The OECD (2020), also stated that the expansion of digital financial inclusion requires the development of digital infrastructure. Khera et al. (2021) mentioned that access to infrastructures is a key factor of digital financial inclusion. Nie et al. (2022) examined the relationship between broadband infrastructure and digital financial inclusion. So, it found that there is a significant relationship between broadband infrastructure and digital financial inclusion. Internet connectivity is one of the infrastructure components that leads to the improvement of access and usage of digital financial services. Thus, Wali et al. (2023) studied how internet connectivity impacts financial inclusion among developed and developing countries, and the results revealed that the financial inclusion index is positively associated with internet users among developed and developing countries. Also, they mentioned that in an economy if internet users increase, financial inclusion also increases.

Additionally, Liu et al. (2021) mentioned that in digital financial inclusion, better financial infrastructure plays a significant role. Therefore, can conclude that infrastructure significantly affects digital financial inclusion among rural undergraduates in Sri Lanka.

H₀₃: Infrastructure facilities significantly affects digital financial inclusion among rural undergraduates in Sri Lanka.

Tony and Desai (2020) found that there is a strong relationship between digital financial literacy and digital financial inclusion. They also highlighted that digital financial literacy makes possible digital financial inclusion. Khera et al. (2021), expressed that financial and digital literacy is a key factor of digital financial inclusion. Rekha et al. (2021) mentioned that financial literacy and digital skills enhance the use of financial services more efficiently. Gunasekera and Arandara (2020) emphasized that the impact of digital literacy and awareness of digital finance leads to increased use of digital financial services. Hasan et al. (2023) indicate that women entrepreneurs with higher digital financial literacy have more probability to engage with formal banking. Thus, we can conclude that digital financial literacy has an impact on digital financial inclusion.

H₀₄: Digital financial literacy significantly affects digital financial inclusion among rural undergraduates in Sri Lanka.

Methodology

The research problem of this study can be justified based on theories and concepts. It means the nature of reality (ontology) of the research problem is objective. Therefore, this study belongs to the positivism philosophy. Accordingly, this research will be performed under the deductive approach through the quantitative methods. The population of this study can be considered as rural undergraduate students of public universities in Sri Lanka. Also, this study used the snowball sampling method to collect the sample size. Thus, 143 respondents were used for analysis in this study using quantitative approaches. According to Memon et al. (2020); Roscoe (1975) mentions that for behavioral studies, a sample size greater than 30 or less than 500 is suitable and Green (1991) proposed that $50+8m$ (where m is the number of explanatory variables in the model) can be used to determine the sample size. Accordingly, this study consists of five independent variables and the sample size can be determined as $50+(8)(5)$ and it is 90. Therefore, can conclude that a 143-sample size is sufficient for the current study.

The primary data is the most accurate data that gives more reliable results. Therefore, to obtain more accurate results the research used primary data. Also, data were collected using an internet survey method using a structured online questionnaire. The questionnaire was designed to collect quantitative data for this study. Thus, the questionnaire mainly consists of three parts. In the first part, data was collected regarding the respondent's demographic information while the other two parts captured the data relating to digital financial inclusion and factors on digital financial inclusion respectively. Digital financial inclusion is measured by using a five-point Likert scale adopted by Narmadha (2022); Thathsarani and Jianguo (2022); Tony and Desai (2020) examining three dimensions such as access to digital financial services, digital financial services usage (Bathula & Gupta, 2021), and the quality of digital financial (AFI, 2019). Also,

many scholars explain different kinds of factors concerning digital financial inclusion. However, this study focused on factors such as demographic variables like age and gender, household income, infrastructure, and digital financial literacy. Household income is a socioeconomic factor that is used in this study measure by using a five-point Likert scale studying its items like the ability to invest or save digitally (Liu & Lu, 2023) and family investment decision-making (Li et al., 2022). Also, infrastructure is measured by using a five-point Likert scale examining items like internet connectivity (Wali et al., 2023) and access to infrastructure (Khera et al., 2021). Additionally, digital financial literacy is measured by using a five-point Likert scale evaluating financial literacy and digital skill (Rekha et al., 2021), digital literacy and awareness of digital finance (Gunasekera & Arandara, 2020). To measure the relationship between digital financial inclusion concerning household income, infrastructure, and digital financial literacy, the study used Partial Least-Square Structural Equation Modeling (PLS-SEM) by using Smart PLS. Moreover, the multiple regression analysis was used to identify the relationship between demographic variables like age and gender and digital financial inclusion using STATA software.

Results & discussions

Table 1 below reveals the demographic data of the respondents. More than half of the respondents are female and majority of the respondents belong to the age group of 24 - 26 years. Also, among the respondents more than 60% of them belong to IV academic year.

Table 1: Demographic Information of Respondents

| | Variable | Number | % |
|---------------|---------------------|--------|------|
| Gender | Female | 96 | 67.1 |
| | Male | 47 | 32.9 |
| Age | 21 Years - 23 Years | 45 | 31.5 |
| | 24 Years - 26 Years | 96 | 67.2 |
| | 27 Years - 29 Years | 2 | 1.4 |
| Academic Year | Year I | 5 | 3.5 |
| | Year II | 11 | 7.7 |
| | Year III | 41 | 28.7 |
| | Year IV | 86 | 60.1 |

Source: Survey Results, 2024.

Hair and Alamer (2022) reveal that indicator loadings greater than 0.7 (>0.7) can be considered an acceptable level. Also, if the loading of an indicator is in the range of 0.5 to 0.7, then the indicator can be considered at an acceptable level of reliability. Accordingly, Table 2 represents indicator reliability and its significance indicating all indicator reliability is an acceptable level.

Table 2: Indicator Reliability of Latent Variables

| Construct | Dimension/ Indicator | Loadings | P values |
|---------------------------------------|----------------------|----------|----------|
| Access to Digital Financial Services | ADS_1 | 0.885 | 0.000 |
| | ADS_2 | 0.866 | 0.000 |
| | ADS_3 | 0.824 | 0.000 |
| | ADS_4 | 0.821 | 0.000 |
| Usage of Digital Financial Services | DFU_1 | 0.798 | 0.000 |
| | DFU_2 | 0.809 | 0.000 |
| | DFU_3 | 0.785 | 0.000 |
| | DFU_4 | 0.732 | 0.000 |
| Quality of Digital Financial Services | QDFS_1 | 0.67 | 0.000 |
| | QDFS_2 | 0.716 | 0.000 |
| | QDFS_3 | 0.725 | 0.000 |
| | QDFS_4 | 0.727 | 0.000 |
| | QDFS_5 | 0.706 | 0.000 |
| Household Income | HHI_1 | 0.869 | 0.000 |
| | HHI_2 | 0.761 | 0.000 |
| | HHI_3 | 0.911 | 0.000 |
| | HHI_4 | 0.902 | 0.000 |

| | | | |
|----------------------------|-------|-------|-------|
| Infrastructure | IN_1 | 0.894 | 0.000 |
| | IN_2 | 0.861 | 0.000 |
| | IN_3 | 0.83 | 0.000 |
| | IN_4 | 0.865 | 0.000 |
| Digital Financial Literacy | DFL_1 | 0.923 | 0.000 |
| | DFL_2 | 0.912 | 0.000 |
| | DFL_3 | 0.906 | 0.000 |
| | DFL_4 | 0.914 | 0.000 |

Source: Survey Results, 2024

Hair et al. (2012) highlight that Cronbach's Alpha and Composite Reliability values greater than 0.7 are acceptable for achieving the reliability of the latent variable. Also, Fornell and Larcker (1981) mention that to achieve convergent validity, the Average Variance Extracted (AVE) should be greater than 0.5. Thus, Table 3 reveals that those criteria achieved their acceptable level indicating reliability and convergent validity.

Table 3: Composite Reliability and Convergent Validity

| Variable | Cronbach's alpha | Composite reliability (rho_a) | Composite reliability (rho_c) | Average variance extracted (AVE) |
|-----------------------------|------------------|-------------------------------|-------------------------------|----------------------------------|
| Digital Financial Inclusion | 0.946 | 0.955 | 0.952 | 0.603 |
| Digital Financial Literacy | 0.934 | 0.934 | 0.953 | 0.835 |
| Household Income | 0.885 | 0.9 | 0.921 | 0.745 |
| Infrastructure | 0.886 | 0.891 | 0.921 | 0.745 |

Source: Survey Results, 2024

To measure discriminant validity, HTMT is a good criterion. Hair and Alamer (2022) mention that when establishing discriminant validity, less than 0.9 value is an acceptable level. Thus, as per Table 4 above all values are at an acceptable level.

Table 4: Discriminant Validity - Heterotrait-monotrait ratio (HTMT)

| | Digital Financial Inclusion | Digital Financial Literacy | Household Income |
|-----------------------------|-----------------------------|----------------------------|------------------|
| Digital Financial Inclusion | - | - | - |
| Digital Financial Literacy | 0.795 | - | - |
| Household Income | 0.782 | 0.763 | - |
| Infrastructure | 0.841 | 0.889 | 0.766 |

Source: Survey Results, 2024

After deriving the measurement model and before deriving the structural model (inner model), multicollinearity among indicator and latent variables was checked by using the VIF value. Accordingly, Table 5 represents VIF values, most of them are less than 5 indicating no multicollinearity issue (Hair & Alamer, 2022).

Table 5: Variance Inflation Factor (VIF)

| Outer Model | | Inner Model | |
|-------------|--------|-------------|-------|
| Indicators | VIF | Variables | VIF |
| ADS_1 | 5.632 | | |
| ADS_2 | 6.123 | | |
| ADS_3 | 3.817 | | |
| ADS_4 | 3.437 | | |
| DFU_1 | 2.696 | HHI -> DFI | 2.126 |
| DFU_2 | 3.188 | | |
| DFU_3 | 3.006 | | |
| DFU_4 | 2.499 | | |
| QDFS_1 | 5.092 | | |
| QDFS_2 | 9.531 | | |
| QDFS_3 | 8.569 | | |
| QDFS_4 | 11.709 | | |
| QDFS_5 | 6.608 | | |
| HHI_1 | 2.32 | IN -> DFI | 3.207 |
| HHI_2 | 1.707 | | |
| HHI_3 | 3.702 | | |
| HHI_4 | 3.455 | | |
| IN_1 | 2.889 | | |
| IN_2 | 2.486 | | |
| IN_3 | 2.093 | | |
| IN_4 | 2.519 | | |
| DFL_1 | 4.04 | DFL -> DFI | 3.320 |
| DFL_2 | 3.671 | | |
| DFL_3 | 3.552 | | |
| DFL_4 | 3.631 | | |

Source: Survey Results, 2024

Table 6 depicts the results of the main findings of the study which revealed that household income, infrastructure, and digital financial literacy significantly positively affect digital financial inclusion among rural undergraduates in Sri Lanka showing a p-value of less than 0.05.

Table 6: Path Coefficients and their Significance

| Hypothesis | Beta Value | T statistics | P values | Decision |
|---|------------|--------------|----------|-----------|
| H ₀₂ : Household income significantly affects digital financial inclusion among rural undergraduates in Sri Lanka. | 0.288 | 4.432 | 0.000 | Supported |
| H ₀₃ : Infrastructure facilities significantly affect digital financial inclusion among rural undergraduates in Sri Lanka. | 0.375 | 5.962 | 0.000 | Supported |
| H ₀₄ : Digital financial literacy significantly affects digital financial inclusion among rural undergraduates in Sri Lanka. | 0.282 | 3.761 | 0.000 | Supported |

Source: Survey Results, 2024

As per the adjusted R² (Table 7) 73.1% of the variation of digital financial inclusion has been captured by the existing variables in the model, and the remainder is explained by the other uncontrolled extraneous factors.

Table 7: Assessing the R Square

| Dependent Variable | Independent Variables | R-square | R-square adjusted |
|-----------------------------|----------------------------|----------|-------------------|
| Digital Financial Inclusion | Household Income | 0.737 | 0.731 |
| | Infrastructure | | |
| | Digital Financial Literacy | | |

Source: Survey Results, 2024

Discussion

Considering hypothesis 2, the impact of household income on digital financial inclusion, the P value is 0 and this value is less than the 0.05 level. That means, the path coefficient of household income is significant and H₀ can be rejected. Alwahidin et al. (2023) reveal that an increase in household income is a broad access to digital financial services. Also, Li et al. (2022) highlights that digital financial inclusion improves the income level of family financial investments and enhances family investment decision-making. The present economic crisis can be a practical reason household income affects digital financial inclusion. Most families are financially insecure because of the huge economic crisis in Sri Lanka and people try to have more money in their hands to purchase goods and services rather than saving money. Therefore, the current study also confirms the previous study's results stating that household income significantly affects digital financial inclusion among rural undergraduates in Sri Lanka.

According to hypothesis 3, the impact of infrastructure on digital financial inclusion, the P value is 0. This value is less than 0.05 and H₀ can be rejected. Infrastructure facilities can be considered a major determinant of digital financial inclusion having more infrastructures leads to improved access to and usage of digital financial products and services. The relationship between infrastructure and digital financial inclusion mentioned by earlier scholars is confirmed through this study. Khera et al. (2021) mentioned that access to infrastructures is a

key factor of digital financial inclusion confirming this study's results. Also, Liu et al. (2021) revealed that in digital financial inclusion, better financial infrastructure plays a significant role. Moreover, Nie et al. (2022) examined the relationship between broadband infrastructure and digital financial inclusion and the study found that there is a significant relationship between broadband infrastructure and digital financial inclusion. Besides, Wali et al. (2023) mentioned that in an economy if internet users increase, financial inclusion also increases. This positive relationship was confirmed through this study. Therefore, it concludes that infrastructure facilities significantly affect digital financial inclusion among rural undergraduates in Sri Lanka.

As per hypothesis 4, the impact of digital financial literacy on digital financial inclusion, the P value is 0. This value is less than the 0.05 level and H_0 can be rejected. Having literacy on digital finance and digital skills leads to access to and usage of more quality digital financial products and services (Rekha et al., 2021). This study has confirmed the results discussed by previous scholars in their research. Tony and Desai (2020) discussed that there is a strong relationship between digital financial literacy and digital financial inclusion. Also, Khera et al. (2021), expressed that financial and digital literacy is a key factor of digital financial inclusion. Present study also confirmed that there is a strong positive relationship between digital financial literacy and digital financial inclusion. Therefore, it concludes that digital financial literacy significantly affects digital financial inclusion among rural undergraduates in Sri Lanka.

Conclusion and Recommendations

This study aimed to examine factors such as demographic factors (age and gender), household income, infrastructure, and digital financial literacy on digital financial inclusion among rural undergraduates in Sri Lanka. significantly affect digital financial inclusion among rural undergraduates in Sri Lanka rejecting the null hypothesis. However, the study also reveals that demographic factors such as age and gender do not significantly affect digital financial inclusion among rural undergraduates in Sri Lanka.

This study has contributed literature generating new empirical findings on factors that impact digital financial inclusion among rural undergraduates in Sri Lanka. Also, this study synthesizes digital financial inclusion with factors to offer a new theoretical insight, which is then empirically tested among rural university undergraduates by filling the gaps of the limited theoretical framework on factors that affect digital financial inclusion. Moreover, the study has contributed literature using a valuable methodological framework explaining the relationship among variables.

As per the study findings, household income is a prominent factor that affects digital financial inclusion. Therefore, it is important to increase the household income of rural undergraduates by providing affordable financial products and services with low thresholds that pave the way for new business opportunities. On the other hand, infrastructure is another crucial factor that affects digital financial inclusion among rural undergraduates. Thus, institutions and responsible parties should focus on establishing new quality digital infrastructure such as ATMs in rural areas, providing easy access by increasing the quality of financial products and services. Moreover, it is necessary to enhance the efficiency of digital-based software used in

financial needs. Besides, to increase digital financial literacy among rural undergraduates that affect digital financial inclusion, it can be attached a course unit of undergraduate degree curriculum about digital financial education to compete with the world that rapidly changing with technology.

As an undergraduate, it needs to improve financial activities using digital platforms to face future differences enhancing access and usage of digital financial products and services. The policy makers should help the less financially included undergraduates to the system providing more attractive financial products and services providing non-financial and financial motivations improving infrastructure facilities, and minimizing restrictions on accessing and usage of digital financial products and services. However, the present study has some limitations. The study only employed the sample size of 143 rural undergraduates in government universities in Sri Lanka and used quantitative techniques. Therefore, future researchers can study selecting a big sample representing all rural undergraduates in Sri Lanka, as the units of analysis with employing both qualitative and quantitative techniques.

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IMPACT OF GENERATIONAL COHORTS ON ONLINE CONSUMER BEHAVIOUR

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Abstract

Understanding generational influences on online consumer behavior is crucial for optimizing business strategies and fostering economic growth. This study examines the purchasing behaviors of four generational cohorts—Baby Boomers, Generation X, Millennials, and Generation Z—in Sri Lanka's online marketplace. The research addresses the gap in demographic-driven e-commerce analysis by exploring how generational cohorts influence product preferences and purchasing patterns. Data was collected from 229 respondents in Sri Lanka's Western Province using a purposive sampling method and online questionnaires. Statistical techniques, including Chi-square tests and Cramer's V values, were employed to identify associations between generations and product purchasing differentials. The findings reveal distinct generational trends: Baby Boomers and Generation X favor essential items like groceries and financial services, driven by necessity and trust in service reliability. Millennials and Generation Z, on the other hand, prioritize convenience, innovation, and social media influence, with preferences for non-essential items such as electronics and fast fashion. This study emphasizes the need for e-commerce platforms to tailor their strategies to generational preferences. Businesses should invest in improving digital literacy among older consumers, enhancing e-commerce infrastructure, and leveraging social media for younger audiences. By addressing the unique behaviors and preferences of each cohort, businesses can boost customer satisfaction and profitability while contributing to Sri Lanka's economic growth. The findings advocate for a strategic approach to demographic-driven e-commerce, ensuring sustainable development in the digital age.

Key words: Generational cohorts, online consumer behavior, Sri Lanka, e-commerce trends, demographic analysis

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Introduction

The gross national production (GNP) of a country ultimately increases with the influence of the consumer behavior of its population. When the demand for a product rises, production must increase to meet this demand, thereby boosting business income and contributing to the country's GNP (Mankiw, 2021). Therefore, to effectively increase demand and target the right consumer market, it is crucial to understand customer demographics, including age and generational differences. This understanding helps businesses serve their customers' best interests, achieving profitability while contributing to economic growth (Kotler & Keller, 2016). Technological advancements have transformed consumer behavior, allowing individuals to shop at any time and from any location. However, online purchasing patterns can vary significantly based on demographic backgrounds (Smith, 2020). While younger generations are more inclined toward online purchases, older generations may prefer traditional shopping methods (Anderson, 2019). Identifying generational online purchasing trends and consumer behavior is advantageous, ensuring the growth and survival of emerging online platforms in Sri Lanka (Weerasinghe, 2018).

Four main generational cohorts can be identified: Baby Boomers (born 1946-1964), Generation X (born 1965-1980), Millennials (born 1981-1996), and Generation Z (born after 1996) (Dimock, 2019). Understanding the purchasing behaviors and demographic characteristics, such as age, of these cohorts is essential. However, most research in Sri Lanka has focused on the effects of computer literacy and the role of infrastructure in e-commerce, leaving a gap in understanding the impact of generational purchasing behaviors (Jayasinghe, 2021). Recognizing the unique preferences and behaviors of each generational cohort can help businesses tailor their marketing strategies and product offerings. For instance, Baby Boomers might prioritize customer service and product quality, while Millennials and Generation Z might value convenience and technological integration (Solomon, 2020). Generation X may exhibit a blend of traditional and modern shopping habits, making them a unique segment to target (Fromm & Read, 2018).

To fully harness the potential of consumer behavior in boosting GNP, businesses must adopt a comprehensive approach. This includes investing in market research to understand generational trends, enhancing digital literacy among older generations, and improving e-commerce infrastructure (Ali, 2020). By doing so, businesses can create more personalized and effective marketing strategies, drive higher demand for their products, and contribute to the overall economic growth of Sri Lanka (Rajapakse, 2019).

Objectives
This study examines the online product purchasing differentials among four generations while identifying the association between the generations and the product purchasing differentials, to reduce the knowledge gap within Sri Lanka in applying demographics when making business related decisions to survive in the future.

Methodology

The respondents for the research have been chosen from within the Western Province where the highest online share has been recorded during 2019. (Daraz.lk) The study population consist of 229 online consumers from all four generations baby boomers, Generation X, millennials and Generation Z. The purposive sampling method was used as the sampling method while using the online questionnaire method to collect responses due to the pandemic situation. As to analyze data statistical techniques such as Cross tabulations, Chi-square tests and symmetric measures such as Cramer's V values were used. The Chi-square tests and the Cramer's V values were used in determining the strength of the association and the association between generations and the product purchasing differentials while cross tabulations were used in determining the purchasing differentials.

Literature review

The gross national production (GNP) of a country ultimately increases with the influence of the consumer behavior of its population. When the demand for a product rises, production must increase to meet this demand, thereby boosting business income and contributing to the country's GNP (Mankiw, 2021). Therefore, to effectively increase demand and target the right consumer market, it is crucial to understand customer demographics, including age and generational differences. This understanding helps businesses serve their customers' best interests, achieving profitability while contributing to economic growth (Kotler & Keller, 2016).

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Baby Boomers, typically more financially stable due to years of workforce participation, prioritize quality and customer service in their purchasing decisions (Solomon, 2020). They tend to rely on brand loyalty and are less likely to be influenced by online advertisements compared to younger generations. Generation X, often balancing family and career, shows a mixed behavior pattern, appreciating both the convenience of online shopping and the reliability of traditional stores (Fromm & Read, 2018). They value detailed product information and peer reviews before making purchases.

Millennials, known for their tech-savviness, exhibit a high propensity for online shopping and are influenced by social media trends, online reviews, and influencer endorsements (Smith, 2020). They value convenience, speed, and a seamless shopping experience across multiple devices. Generation Z, digital natives who have grown up with the internet and social media, demonstrate a strong preference for mobile shopping and value sustainability and brand authenticity (Anderson, 2019). They are quick to adapt to new technologies and platforms, often leading the way in new online shopping trends.

Recognizing the unique preferences and behaviors of each generational cohort can help businesses tailor their marketing strategies and product offerings. For instance, Baby Boomers might prioritize customer service and product quality, while Millennials and Generation Z might value convenience and technological integration (Solomon, 2020). Generation X may exhibit a blend of traditional and modern shopping habits, making them a unique segment to target (Fromm & Read, 2018).

To fully harness the potential of consumer behavior in boosting GNP, businesses must adopt a comprehensive approach. This includes investing in market research to understand generational trends, enhancing digital literacy among older generations, and improving e-commerce infrastructure (Ali, 2020). By doing so, businesses can create more personalized and effective marketing strategies, drive higher demand for their products, and contribute to the overall economic growth of Sri Lanka (Rajapakse, 2019).

Moreover, addressing the challenges in e-commerce, such as cybersecurity concerns, logistical issues, and payment gateway reliability, can significantly enhance consumer trust and participation (Weerasinghe, 2018). Educational programs aimed at improving digital literacy among older generations can help bridge the gap, enabling them to benefit from the conveniences of online shopping (Jayasinghe, 2021).

Businesses should also focus on creating a seamless omnichannel experience that integrates online and offline touchpoints to cater to the diverse preferences of all generational cohorts (Kotler & Keller, 2016). This can involve offering personalized recommendations, leveraging big data analytics to predict consumer behavior, and providing excellent customer service across all platforms.

In conclusion, understanding and leveraging the generational differences in consumer behavior is crucial for businesses aiming to thrive in the digital age. By addressing the unique needs and preferences of each generational cohort, businesses can enhance customer satisfaction, increase demand for their products, and contribute to the country's GNP growth. This strategic approach not only ensures business success but also supports the overall economic development of Sri Lanka.

Results and discussion

As per the findings, the online product purchasing behaviors of different generations and the association between these purchasing differentials and generational cohorts were recognized, providing valuable insights for online store owners. By understanding these patterns, businesses can better target their consumer market, ultimately increasing their profits.

The research highlighted that essential items such as groceries, medicine, travel services, and financial services are predominantly consumed by the older generations, namely Baby Boomers and Generation X. These cohorts tend to prioritize necessities and services that support their health and well-being, as well as financial stability and leisure activities that require substantial planning and trust (Solomon, 2020).

Conversely, younger generations, including Millennials and Generation Z, are more inclined to purchase products such as clothes, entertainment items, fast food, and electronic gadgets online (Smith, 2020). This trend is driven by their tech-savviness, higher levels of disposable income for non-essential items, and the influence of social media and online marketing (Anderson, 2019). For these younger consumers, convenience, trends, and the ability to quickly access a variety of products are key factors in their purchasing decisions.

Additionally, the study revealed that some product purchases are generation-dependent, meaning that certain items are preferred predominantly by specific age groups, while other purchases are more generationally independent. For instance, while older generations might exhibit a consistent preference for certain essential items, the younger generations' preferences can be more diverse and influenced by current trends and technological advancements (Weerasinghe, 2018).

The products considered in this study, along with the purchasing trends and associations derived from the responses, are illustrated in the table given below. This detailed analysis allows businesses to fine-tune their marketing strategies and inventory management, ensuring they cater effectively to the needs and preferences of each generational cohort.

Table 1: Generational Purchasing Trends and Product Associations

| Product Category | Predominant Generation | Purchasing Behavior Insights |
|---------------------|------------------------|--|
| Groceries | Baby Boomers, Gen X | Prefer traditional shopping but increasingly using online services for convenience and necessity during emergencies. |
| Medicine | Baby Boomers, Gen X | Online purchases driven by the need for convenience and access to a broader range of options. |
| Travel Services | Baby Boomers, Gen X | Prefer online bookings for planning travel, seeking reliability and comprehensive service packages. |
| Financial Services | Baby Boomers, Gen X | Use online platforms for managing finances, driven by the need for security and ease of access. |
| Clothes | Millennials, Gen Z | Highly influenced by social media trends and convenience, prefer fast fashion and variety available online. |
| Entertainment Items | Millennials, Gen Z | Purchase driven by digital content, gaming, and instant access to the latest trends and technologies. |
| Fast Food | Millennials, Gen Z | Favor online ordering and delivery services, influenced by convenience and lifestyle choices. |
| Electronic Gadgets | Millennials, Gen Z | Early adopters of new technologies, influenced by innovation and peer reviews. |

Source: Author, 2024

Table:2 The generational purchasing differentials and the association between generations and the purchasing differentials

| Product | Baby boomers | | Generation X | | Millenials | | Generation Z | | Association | Cramer's V value |
|---------------------|--------------|---------------|--------------|---------------|------------|---------------|--------------|---------------|-------------|------------------|
| | consumers | non-consumers | consumers | non-consumers | consumers | non-consumers | consumers | non-consumers | | |
| Groceries | 54.3% | 45.7% | 55.8% | 44.2% | 40.6% | 59.4% | 30.0% | 70.0% | Dependent | 0.170 |
| Electronic items | 20.0% | 80.0% | 38.5% | 61.5% | 57.4% | 42.6% | 45.8% | 54.2% | Dependent | 0.217 |
| Clothes | 28.6% | 71.4% | 36.5% | 63.5% | 54.0% | 46.0% | 56.7% | 43.3% | Dependent | 0.175 |
| Entertainment items | 17.0% | 83.0% | 19.0% | 81.0% | 41.0% | 59.0% | 47.0% | 53.0% | Dependent | 0.205 |
| Financial services | 62.9% | 37.1% | 65.4% | 34.6% | 53.0% | 47.0% | 31.7% | 68.3% | Dependent | 0.230 |
| Fast food | 45.7% | 54.3% | 57.7% | 42.3% | 63.3% | 36.7% | 54.2% | 45.8% | Independent | - |
| Travel services | 25.7% | 74.3% | 23.1% | 76.9% | 23.5% | 76.5% | 12.5% | 87.5% | Independent | - |
| Medicine | 22.9% | 77.1% | 19.2% | 80.8% | 14.3% | 85.7% | 10.0% | 90.0% | Independent | - |

Source: Sample survey, 2020

N = 229

According to the above table, the highest grocery purchases were recorded by Generation X, while the lowest was recorded by Generation Z. This suggests that Generation X, typically in their Middle Ages, prioritize convenience and practicality in their shopping habits, often opting for online grocery shopping to save time (Smith, 2020). On the other hand, Generation Z, being younger and possibly living with their parents or in shared accommodations, may not yet feel the same level of responsibility for household shopping.

Electronic items and entertainment items have proven to be predominantly purchased by younger generations, with Millennials and Generation Z being the highest consumers. This trend highlights the technological inclination and digital lifestyle of these cohorts. Millennials, having grown up with evolving technology, and Generation Z, being digital natives, are naturally drawn to the latest gadgets and entertainment options available online (Anderson, 2019).

In contrast, Baby Boomers recorded the least number of online clothing purchases, while Generation Z recorded the highest. This pattern reflects the younger generation's fashion-conscious behavior and their comfort with online shopping platforms, which offer a wide range of options and the latest trends. Older generations, particularly Baby Boomers, may still prefer the traditional in-store shopping experience, where they can physically inspect products before purchasing (Solomon, 2020). A rather contradicting trend was observed in the consumption of travel services, financial services, and medicine, where Baby Boomers ranked the highest, followed by Generation X, with Generation Z being the least. This indicates that older generations utilize online services for essential and high-stake needs, such as managing health, finances, and travel plans, valuing reliability and comprehensive service packages (Weerasinghe, 2018).

The data also reveals that younger generations tend to purchase clothes and electronic items, even though these items can sometimes be defective, demonstrating a willingness to take risks and a preference for convenience. Conversely, older generations show a clear disinterest in such purchases, likely due to their more cautious and discerning approach to shopping (Solomon, 2020). The responsibilities of older generations concerning family, finances, and health are evident from their higher consumption of essential services and products. These findings align with those from Daraz.lk, which state that younger online shoppers are less price-conscious and more experimental, whereas older shoppers are more price-conscious and less experimental (Daraz.lk, 2022). This generational difference in shopping behavior is also supported by Sorce, Perotti, and Widrick (2005), who observed that people from all generations are now online consumers due to the widespread ease of internet access. Additionally, Trochia and Janda (2000) noted that the older generations' lack of IT experience and resistance to change could explain their relatively lower engagement in online shopping.

The association between each product purchasing differential and generation was derived based on two hypotheses. For some products, such as travel services, fast food, and medicine, the null hypothesis was accepted, indicating an insignificant association between these products and generational differences. This suggests that the consumption of these products is relatively independent of generational influences. However, for other products, the alternative hypothesis was accepted, indicating a significant association between the products and the generational

cohorts. Although many products were found to be dependent on generational factors, the strength of these associations was generally weak, as indicated by the Cramer's V value. This implies that while generational differences do influence purchasing behaviors, other factors, such as individual preferences, lifestyle, and socio-economic status, also play crucial roles in shaping these behaviors.

Conclusion and suggestions

In the ongoing paradigm shift from traditional in-store purchases to online-based purchases, many questions arise regarding whether generational cohorts influence online consumer behavior. This study was conducted to address these questions and fill the knowledge gap by applying demographic insights to business decision-making. The findings indicate that generational cohorts significantly influence online purchasing patterns. The responses collected reveal that all generations engage in online shopping, yet they exhibit distinct product purchasing trends. This underscores the importance of supplying products tailored to the specific needs and wants of each generational group. For instance, older generations, such as Baby Boomers and Generation X, predominantly purchase essential items like groceries, medicine, travel services, and financial services. In contrast, younger generations, such as Millennials and Generation Z, show a preference for non-essential items like clothes, entertainment products, fast food, and electronic gadgets (Anderson, 2019; Smith, 2020).

The future of the online market appears promising, particularly with younger generations purchasing a wide range of products considered in the research, despite their current inclination towards specific items. This trend suggests that as these younger cohorts age and their needs evolve, their online purchasing habits will likely expand to include a broader spectrum of products. Therefore, understanding generational purchasing differentials and associations is crucial for online marketers aiming to maximize profits and ensure long-term sustainability (Solomon, 2020).

Moreover, this study emphasizes the necessity for online marketers to comprehend the nuances of generational behavior to effectively target and cater to each group. For example, the younger generations' experimental nature and comfort with technology contrast sharply with the older generations' price-consciousness and cautious approach to online shopping (Daraz.lk, 2022; Weerasinghe, 2018). This understanding can help businesses develop more effective marketing strategies and product offerings that resonate with each cohort's preferences. Additionally, the study suggests that reducing the knowledge gap among online store owners regarding business demography is essential. By leveraging demographic insights, businesses can make informed decisions about product selection, marketing campaigns, and customer service strategies. Furthermore, promoting online platforms among older generations can enhance their shopping experience, particularly in situations like pandemics, where the convenience and safety of online shopping become even more critical (Sorce, Perotti, & Widrick, 2005; Trochia & Janda, 2000).

In conclusion, this study highlights the significant role of generational cohorts in shaping online consumer behavior. By recognizing and addressing the unique needs and preferences of each

generation, online retailers can better serve their customers, increase their market share, and ensure their business's longevity. The findings advocate for a strategic approach to online marketing that incorporates demographic insights, ultimately leading to more satisfied customers and higher profits.

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A STUDY ON THE IMPACT OF SOCIAL MEDIA USE ON THE FORMAL EDUCATION OF UNDERGRADUATES IN PUBLIC UNIVERSITIES IN SRI LANKA

P.H.C. Lakshini¹

Abstract

undergraduate students in Sri Lanka's public universities, focusing on academic activities, skills, and learning methods. Addressing a gap in existing literature, it examines the effects of platforms like WhatsApp, Facebook, and YouTube. The research adopts a mixed-method approach, using semi-structured questionnaires and unstructured interviews to collect data from 200 students at the University of Colombo, selected through stratified random sampling. Quantitative data was analyzed using Microsoft Word, while qualitative data underwent thematic analysis. Guided by theories such as social constructivism, social learning, social capital, and Marxism, the findings reveal both positive and negative effects of social media use on education, influenced by the nature, reasons, and effectiveness of its use. The study emphasizes the importance of understanding these dynamics to develop strategies that maximize benefits and mitigate drawbacks. It provides valuable insights for policymakers and educators, contributing to the broader discourse on social media's role in education

Keywords: Universities; social media; Undergraduates; formal education; Use of social media

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Introduction

The rapid advancement of technology in recent years has brought about profound changes in various aspects of our lives, including communication, information retrieval, and entertainment: By today Notably, the emergence of social media platforms has become one of the defining technological developments of this era, as individuals transcend geographical boundaries (Duggal, 2023). Reshaping the way, we connect, share, and engage: Social media has become widely adopted and has become a global phenomenon enabling real-time communication and information sharing on a massive scale. New platforms like TikTok and Clubhouse are enriching the social media landscape by joining forces with established networks like Facebook, YouTube, Twitter, and Instagram (Dollarhide, 2020).

Globally, more than 3.8 billion people use social media, with significantly higher usage among 16 to 24-year-olds (Statista, 2017 as cited in Tennakoon & Lasanthika, 2018). Social media has become an integral part of their lives. For many, social media is a modern addiction and as a result, the influence of social media extends to various domains including education. It bridges gaps in educational access, particularly for geographically isolated or traditionally underserved populations (Charles, 2015).

This study attempts to investigate the sociological impact of social media on the formal education of undergraduate students in public universities in Sri Lanka. While previous research has explored its impact on academic performance, this study aims to delve deeper into its impact on academic activities, learning styles, and academic skills. Focusing on public universities in Sri Lanka provides relevant contextual insights that can inform educational practices in the region.

Understanding the multifaceted impact of social media on formal education is essential in today's digital age. This research can guide educators, policymakers, and university administrators in optimizing the benefits and addressing the challenges of social media in the educational landscape. In this paper, the research methodology, relevant literature review, and findings are presented to contribute to the ongoing discourse on the role of social media in modern education.

Methodology

Methods used in the research, include details of the research setting, study population, sample size, sampling procedure, data collection methods, data analysis, ethical considerations, and limitations. Those are outlined in this section. The study was conducted at the University of Colombo, one of Sri Lanka's oldest and leading institutions of higher learning. Based in Colombo, it offers diverse academic programs across nine faculties and is known for its commitment to innovation and creativity in education (University of Colombo, 2022).

The study focused on internal undergraduate students of the University of Colombo. The research used a stratified random sampling method to select 200 undergraduate students for unstructured interviews from three faculties: Law, Management & Finance, and Science. In

addition, 25 participants were purposively selected from the respondents for in-depth interviews.

A semi-structured questionnaire consisting of 62 questions was administered to collect quantitative and qualitative data. It was divided into two parts: Part A collected socio-demographic data, and Part B explored social media use and its impact on formal education. The questionnaires were distributed electronically using the E-mail of the respondents and were available in both Sinhala and English languages. In-depth interviews were conducted with 25 participants purposively selected from the questionnaire respondents. These interviews allowed for the collection of rich qualitative data.

Secondary data on the study population was obtained from the 2020 annual report of the University of Colombo and official reports of selected faculties. Existing literature on the research topic was also referred to.

Qualitative data analysis involves thematic analysis. This method helped identify codes and themes within the data. Transcripts were generated, primary codes were established, and themes were identified, explored, and reported. Theoretical frameworks like Social Learning Theory, Social Capital Theory, Social Constructivism, and Marxism were used to interpret the data. Quantitative data were analysed using Microsoft Word and the results were presented in tables and graphs. This approach made the research a mixed methods study.

Ethical considerations were strictly adhered to. The participants were informed about the purpose of the research and their consent was obtained. Participants were assigned numerical identifiers during data analysis to ensure privacy and confidentiality. No inducement was offered, and participants could withdraw from the study at any time. Contact information was provided for continued communication.

The research had several limitations. There was a risk of a low response rate due to the questionnaire being distributed via e-mail. Attempts were made to mitigate this using various online and offline methods. Steps were taken to minimize the limit of respondents may provide inaccurate responses by carefully crafting the questionnaire and selecting the participants for the interviews. The sample size may be considered small for statistical generalization but the research focused more on qualitative insights. Findings are not easily generalizable due to the qualitative nature of the research. These limitations were addressed as effectively as possible within the research design and context.

Literature Review

Social media platforms have become an integral part of contemporary life, influencing various aspects of society including education. This literature review examines the impact of social media on academic learning among undergraduate students. It presents an overview of key concepts and theories relevant to this research.

Social media, a dynamic and ever-evolving realm of online communication, has transformed the way individuals exchange ideas, knowledge, and information. Defined as internet-based technologies that facilitate the formation of online networks and communities, social media platforms have become integral to modern life (Kaplan & Haenlein, 2010). This study

concentrates on three widely used social media platforms of respondents: Facebook, YouTube, and WhatsApp, and their impact on undergraduates.

Facebook, founded by Mark Zuckerberg and his colleagues in 2004, is the world's largest social media platform with 2.41 billion monthly active users (Meta, 2023). It allows users to create profiles, connect with friends, share various forms of content, and engage in online activities. YouTube, established in 2005, is a video-sharing service acquired by Google in 2006.

With over 1 billion hours of video watched daily (YouTube Press, 2023), it enables users to watch and upload videos, making it a significant platform for content consumption and creation. Launched in 2009 by Jan Koum and Brian Acton, WhatsApp is a messaging application that offers text, voice, and video communication. Its user-friendly interface and end-to-end encryption have contributed to its popularity, with over 2 billion monthly active users globally (Statista, 2021).

Formal education is a structured learning program offered by educational institutions. It includes academic activities, skill development, and knowledge acquisition. "University" means institutions of higher education where students are pursuing undergraduate and postgraduate studies. Undergraduates are students enrolled in undergraduate programs at universities. Academic Reading involves understanding and analyzing scholarly texts, research papers, and academic publications. Academic Writing involves the skills needed to produce academic writing, essays, and reports. Cooperative Learning refers to group-based learning and collaboration among students. An educational approach that emphasizes Individual learning is the acquisition of knowledge and skills through self-study and independent efforts.

Social learning theory, proposed by Albert Bandura in 1977, emphasizes the role of observation, imitation, and social interaction in learning and behavioral development (Bandura, 1977). It suggests that individuals learn by observing and modeling behavior. Because students can imitate peers and engage in social learning activities online, this theory is relevant to understanding how social media affects academic learning.

Social constructivism, introduced by Lev Vygotsky in 1978, emphasizes the social and cultural aspects of knowledge construction and learning (Vygotsky, 1978). It asserts that individuals actively construct understanding through social interaction and cooperation. Social media platforms facilitate collaborative learning experiences, allowing students to share knowledge and collectively construct meaning.

Social capital theory focuses on the benefits of social connections and networks (Putnam, 1995). It highlights how social media can provide access to resources, information and social support, improving academic performance among students. Online communities and networks formed through social media platforms contribute to the development of social capital.

Marxist theory presents a critical analysis of capitalism and its impact on education. It suggests that social media may exacerbate existing educational inequalities, as students from disadvantaged backgrounds may have limited access to online resources (Bowles & Gintis, 1976). The theory raises questions about how social media can perpetuate class divisions in education.

Positive and Negative Effects of Social Media on Academic Learning

Several studies suggest positive effects of social media use on academic performance. For example, Ansari and Khan (2020) found that online social media used for cooperative learning

positively affected student engagement and academic performance. Similarly, Madhavika and Kodituvakku (2019) identified a positive effect of social media on academic performance among Sri Lankan undergraduate students.

On the other hand, some studies show negative effects of social media use on academic skills. Islam & Aktaruzzaman (2018) found that excessive use of social media platforms negatively affected students' writing skills. Owusu-Acheaw and Larson (2015) reported that the use of social media negatively affected the academic performance of students in Ghana.

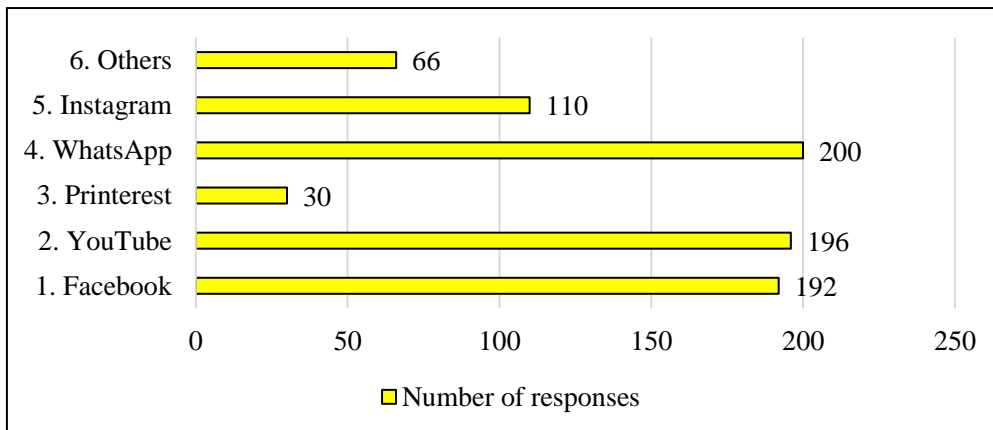
Incorporating social media into formal education has become a subject of increasing interest. This study examines the impact of social media on undergraduate education in public universities in Sri Lanka. Our investigation examines the nature and rationale of social media use in formal education, as well as its impact on academic activities, skills, and learning styles.

Findings

Analysis of quantitative data collected through semi-structured questionnaires revealed insights into the use of social media for formal education. Specifically, we explored the following areas:

- Nature of social media use for formal education
- Reasons for using social media for formal education
- Effectiveness of Social Media Use in Undergraduate Formal Education

Figure 5.1: Social media used by undergraduates for formal education

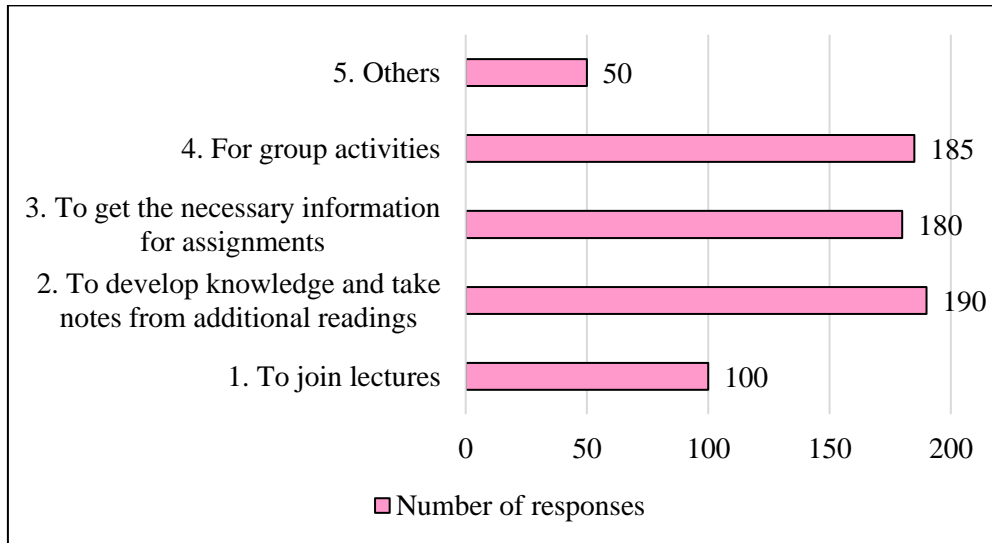


Source: Field data, 2022

As shown in Figure 5.1 above, it appears that all the sample members (100%) are using WhatsApp. 98% of them are using YouTube and the same number (96%) are using Facebook for educational purposes. Pinterest, among other social media, it is reported that it is the third most used social media in Sri Lanka (StatCounter Global Stats, 2022), but because it is not shown in the sample (15%), it can be said that it is spread very little among undergraduate students. However, more than that. It can be seen that a percentage (55%) uses Instagram for educational activities. Because a limited group (33%) who also use other social media are

represented in the sample, there may be little use of other social media such as Twitter, TikTok, Telegram, and LinkedIn among undergraduate students.

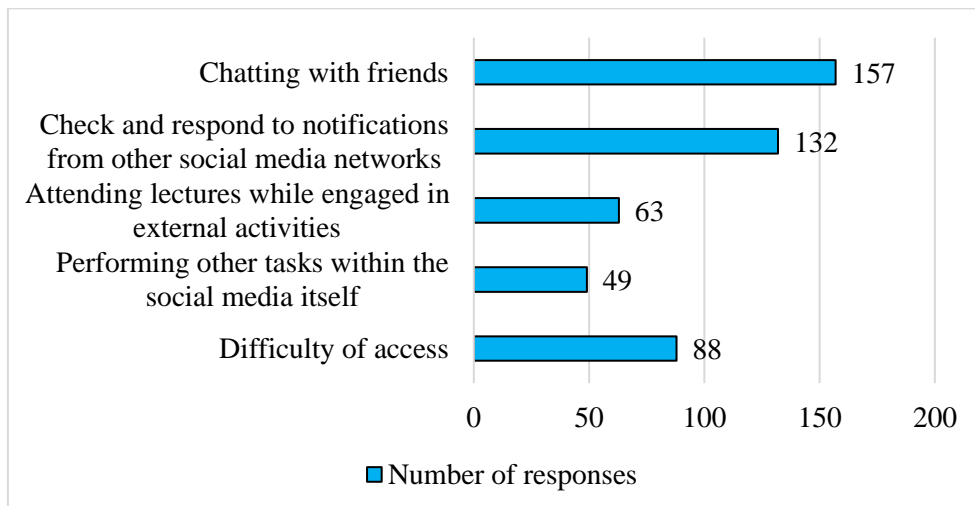
Figure 5.2: Reasons for using social media for formal education



Source: Field data, 2022

Reasons why undergraduate students use social media for formal education are presented in Figure 5.2. Accordingly, it appears that 95% of the sample members are motivated to develop knowledge and take notes from additional readings. 92.5% use social media to participate in group activities. 90% of the sample members have used social media to get information needed for assignments. 50% of the sample have used social media to join online lectures and 25% have used social media for other educational activities.

Figure 5.3: Effectiveness of attending online lectures via social media



Source: Field data, 2022

As shown in Figure 5.3, although the sample members participated in the lectures through social media, it seemed to be not very effective because most of them (78.5%) failed to maintain attention during the lecture due to chatting with friends on social media. Up to 66% of the sample recipients. It is that they are unable to listen to the lecture properly because they are checking and responding to notifications from other social media networks while they are in the lecture. In addition, some (44%) are not able to stay continuously in the lecture due to the difficulty of access.

The interview revealed that technical errors, lack of continuous internet service, broken signal connection, lack of devices, and other obstacles caused by the external environment caused the access to be difficult (Field Data, 2022). It is indicated that they are involved in the lecture. Because of this, it is not even possible to take notes properly and (39.5%) the receivers indicate that they are unable to give correct answers even to the questions asked by the teacher (47.5%) (Field Data, 2022).

Qualitative data from unstructured interviews and questionnaires were meticulously coded, leading to the identification of five main categories representing the impact of social media on formal education:

- Impact of knowledge building
- Impact on academic skills
- Impact on collaborative learning
- Impact on individual learning
- Impact on task completion

Discussion

This research investigated the impact of social media on undergraduate education in public universities in Sri Lanka. We investigated its impact on academic activities, skills, and learning styles. The study highlighted the following key points: Undergraduate students use social media for a variety of educational purposes, including online lectures and collaborative activities, emphasizing its potential to enhance academic learning and skills. Popular social media platforms such as YouTube, Twitter, and Twitter are widely used for educational purposes, facilitating access to educational content and peer-to-peer interaction. The effectiveness of social media use varies with strategic use having a positive impact on academic achievement and skill development.

Thus, from a social constructivist perspective, a person's social interactions are important for acquiring knowledge, but in addition to social interactions, the individual's attitudes, feelings, values, and actions are also relevant. Social media can overcome structural gaps as mediators that connect previously unfamiliar people and spread information across gaps in the wider learning network. One of the potential side effects of such structural closure is the potential to stifle new ideas. Good ideas are more likely to emerge when exposed to a variety of ideas and resources from the world (Burt, 2004). Structural holes and network diversity offer fertile ground to facilitate the development of innovation, new knowledge production, generation and learning outcomes (Swales et al., 2012).

In this way, the social capital of undergraduate students is built. When applied to the impact of social media on the formal education of undergraduate students in Sri Lanka, human capital theory provides an understanding of how the use of social media affects the acquisition of knowledge and skills and subsequently the development of students' human capital. However, some respondents also pointed out that social media is devaluing these skills.

However, social media platforms can provide undergraduate students in Sri Lanka with access to a wide range of educational resources, including online lectures, academic articles, educational websites, and study materials. Having these resources increases students' opportunities to acquire knowledge and skills, contributing to their human capital development. Social media platforms often host educational communities, online courses, and discussion forums related to various academic disciplines. By engaging in these online learning opportunities, undergraduate students in Sri Lanka can expand their knowledge, develop specialized skills, and enhance their human capital.

Coleman (1988) was the first to examine the relationship between social capital and education and the positive responses to his view that the student's networking, family, friends, and attachment to the educational institution are factors affecting their educational success and are also important as human capital. The social connection of the communities acts as a driving force for the social and educational development of the students.

The social connection with the university community has an absolute influence on its activities and communities. There is social capital (undergraduate and parental attraction, student and teacher attachment, affection with the university, etc.) While strong, the educational development process is simple and has a great impact on educational goals (Fukuyama, 1996). According to the theory, through frequent use of social media for educational purposes, university students develop skills through their environment and peers. Also, according to the theory, students learn from each other through observation, imitation, and modelling, thereby achieving positive learning outcomes (Razieh, 2012).

There is an ongoing discussion in the academic literature that the use of social media and social networking sites facilitates collaborative learning. Accordingly, the use of online social media for collaborative learning, interaction with instructors and peers leads to student's academic activities, and thus influences students' academic performance. (Ansari & Khan, 2020). According to Redeker et al (2010), social media not only allow knowledge exchange but also create understanding among students, discuss with peers, lecturers, increase knowledge sharing and improve research skills of students. Facilitates cooperative learning to do. It is also well confirmed in the following response.

It would make sense that intensive use of such modern technology for educational teaching in higher education will further facilitate teachers and students to create a digital discussion group. For collaborative learning purposes, peers and teachers positively affect their interaction (Ansari & Khan, 2020). However, social constructivist theory highlights that the effective use of media depends on users, collaborative learning, engagement and intention to use social media. Social relationships with social media act as an energizing force for members to improve their lives and create greater opportunities for success for individuals involved in social relationships.

Social media encourages the active participation and engagement of individual learners. Individuals can share their own insights, reflections, and learning experiences through a variety

of mediums, such as blog posts, status updates, or video presentations. By actively contributing to online discourse, self-learners can share their knowledge of subject matter. They can build understanding, refine their ideas through feedback and discussion, and contribute to collective knowledge in their social networks.

Through social media posts, comments, or discussions, individuals can express their thoughts, reflect on their learning journey, and gain insight into their learning processes. Self-learners can set goals, track their progress, and rely on feedback and reflection. Students may engage in metacognitive activities such as adapting their learning strategies. In line with social learning theory, the analysis shows that through social media, individual learners can observe and learn from others who share their knowledge and expertise. By watching videos, reading posts, or following the accounts of knowledgeable people, individual learners can acquire new skills, acquire knowledge, and learn about different subjects.

Social media platforms provide opportunities for individual learners to model the behaviors and skills of others. One can learn by observing how experts approach a topic or task, imitating their techniques, and imitating their actions. Social media can inspire and guide individuals on their learning journeys. It provides a platform where you can find role models and mentors to guide you.

This is confirmed by the response below. Social media platforms provide a large amount of information and content on a variety of topics. Individual learners can use social media to find new ideas, resources, and learning materials that match their interests. In addition, social media platforms often allow users to filter content based on their preferences. and provides features that allow students to control, and personalize their learning experience and focus on relevant information.

Social media platforms can provide support and motivation for individual learners. Individuals can seek encouragement, advice, and guidance from their social connections, creating a supportive learning environment. Peer support, mentoring, and online communities built through social media provide motivation, accountability, and belonging. Developing a sense of belonging can enhance the learning journey alone. Further explanation from the social capital theoretical perspective is that while social media provides access to large amounts of information based on the abundance of connections, resources, and opportunities, it can also contribute to information overload and the spread of misinformation.

Conclusion

In Conclusion, this study thoroughly examined how social media impacts the formal education of undergraduate students at the University of Colombo. It shed light on their usage habits, perceptions, and experiences, offering valuable insights into the complex relationship between social media and higher education in the context of Sri Lanka.

The research findings emphasized that social media plays a significant role in the academic lives of undergraduate students. It has become a versatile tool for sharing information, facilitating collaborative learning, and fostering academic connections. However, it's crucial to acknowledge that its influence extends beyond academia, encompassing both positive and negative aspects.

The study revealed that students see social media as a valuable resource to complement their formal education. It enables quick access to course materials, facilitates communication with peers and faculty, and promotes collaborative learning environments. Furthermore, it encourages engagement with academic content and helps students stay updated with the latest developments in their fields of study. On the downside, the constant presence of social media can lead to distractions, procrastination, and information overload, which can impact students' focus and productivity.

The research also highlighted that the impact of social media on education varies among different faculties and disciplines. Some faculties incorporate social media into the learning process more extensively than others, emphasizing the need for a tailored approach to effectively harness the potential of social media in higher education. This study contributes to the ongoing discussion about the intersection of technology and education, emphasizing the importance of promoting digital literacy and responsible social media use among students. It also calls for initiatives at the faculty and institution levels to utilize social media as a teaching tool, creating a more interactive and engaging learning environment.

Looking ahead, future research could explore the evolving dynamics of social media use in higher education through a longitudinal study, providing deeper insights. Additionally, comparative studies involving multiple universities and countries would help contextualize our findings and offer a broader perspective on this topic. In conclusion, while social media undoubtedly brings transformative opportunities to the educational landscape, it's crucial to navigate this digital landscape with care. By acknowledging and addressing the challenges highlighted in this study, universities can harness the benefits of social media to enhance the quality of formal education while mitigating its associated drawbacks, better preparing students for success in an increasingly interconnected and digital world.

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GENDER-BASED DISCRIMINATION IN KOLLYWOOD FILMS: AN IN-DEPTH ANALYSIS OF PORTRAYALS AND IMPACT

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Abstract

The influence of gender portrayal in cinema transcends the confines of the silver screen, significantly shaping societal perceptions and norms. Kollywood, the vibrant Tamil film industry, is no exception to the profound impact of cinema on cultural narratives. This research paper embarks on a comprehensive exploration, examining the presence and ramifications of gender-based discrimination in Kollywood films. Utilizing a curated dataset of 100 movies, this study deploys a multifaceted research methodology, encompassing content analysis, interviews, surveys, and case studies. These methods offer a deep dive into the representation of women in these films, the real-world experiences of women in the Kollywood industry, and the consequential effects on societal attitudes and behaviours. The overarching objectives of this research encompass the critical assessment of the portrayal of female characters, the systematic evaluation of gender-based discrimination within these films, the analysis of the multifaceted roles and experiences of women in the Kollywood landscape, and, critically, the formulation of evidence-based recommendations aimed at fostering a more inclusive and equitable cinematic environment. The findings unveiled through this rigorous inquiry illuminate persistent gender disparities and stereotypes that linger within Kollywood, underscoring the pressing need for the film industry to assume the mantle of a catalyst for positive change in the portrayal and perception of gender on and off-screen.

Keywords: *Kollywood, gender-based discrimination, gender portrayal, cinema, content analysis, gender equity, societal impact.*

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Introduction

The Tamil-language film industry, popularly known as Kollywood, is a vibrant part of India's cinematic landscape, renowned for its cultural depth and storytelling. With its significant influence on societal norms and values, Kollywood shapes public perceptions on various issues, including gender roles. However, its portrayal of women, both on-screen and off-screen, has sparked debates about stereotypes, objectification, and gender-based discrimination. This study delves into these issues, examining 100 Kollywood films to explore how they depict women, the challenges faced by female professionals in the industry, and the broader societal impact of these representations.

Historical Context and Cultural Significance of Kollywood

Kollywood, the Tamil-language film industry centered in Chennai, Tamil Nadu, is one of the oldest and most influential regional film industries in India. Its roots trace back to the early 20th century, with its films reflecting and shaping the cultural identity of Tamil-speaking populations across India and the diaspora. Over the decades, Kollywood has played a pivotal role in promoting Tamil culture, traditions, and socio-political ideas (Rajadhyaksha, 2016). The industry's widespread reach extends beyond entertainment, influencing societal norms, behaviors, and attitudes, making it a powerful cultural institution. However, this influence also places a responsibility on Kollywood to address issues such as gender representation, as its portrayals significantly impact public perceptions of gender roles (Subramanian, 2020).

Gender Representation in Kollywood Films

The portrayal of women in Kollywood films has been a contentious issue for decades. While the industry has produced women-centric narratives and strong female characters, a significant portion of its output perpetuates traditional stereotypes. Women are often depicted in submissive roles, as caregivers or love interests, with limited narrative agency (Ramamany & Iyer, 2018). Moreover, female characters are frequently objectified through cinematic techniques such as the "male gaze," which prioritizes their physical appearance over character depth. Such portrayals reinforce patriarchal norms, reducing women to secondary roles in narratives that prioritize male protagonists (Kumari, 2019). These depictions have far-reaching implications, influencing societal attitudes toward gender and perpetuating inequality.

Challenges Faced by Women in the Kollywood Industry

Beyond on-screen representation, women working in Kollywood face systemic challenges, including pay disparities, limited opportunities for leadership roles, and workplace harassment. Reports suggest that male actors are often paid significantly more than their female counterparts, even in films where the latter play equally significant roles (Balakrishnan, 2021). Furthermore, female directors, producers, and screenwriters remain underrepresented, with their contributions often marginalized. Allegations of harassment and discrimination have also raised concerns about the industry's commitment to fostering an inclusive work environment. These off-screen inequalities reflect the broader societal challenges women face and highlight the urgent need for systemic reforms in Kollywood.

Impact of Gender Representation on Society

Kollywood's influence extends beyond cinema screens, shaping societal norms and attitudes toward gender. The recurring stereotypes and objectification of women in films reinforce

patriarchal values, normalizing unequal gender dynamics in society (Venkatraman, 2020). For instance, movies that portray women as passive or subordinate can perpetuate beliefs about women's limited roles in family and professional settings. Conversely, films with strong, independent female protagonists can challenge traditional norms and inspire societal change. Understanding these dynamics is critical, as Kollywood holds the potential to either reinforce harmful stereotypes or serve as a platform for promoting gender equity.

Need for Gender Equity in Kollywood and Recommendations

Addressing gender-based discrimination in Kollywood requires a multifaceted approach involving industry stakeholders, policymakers, and audiences. Filmmakers must prioritize inclusive storytelling that provides complex, agency-filled roles for women and avoids objectification. Industry reforms, such as equitable pay structures and safe workplaces, are essential for fostering a supportive environment for female professionals (Menon, 2022). Additionally, educational campaigns and audience awareness initiatives can encourage viewers to critically engage with the media they consume. By adopting these measures, Kollywood can not only uphold its cultural significance but also contribute to broader societal progress by promoting gender equity in narratives and practices.

Literature Review

The portrayal of gender in cinema has been a focal point of scholarly discourse for decades, highlighting how media representations influence societal norms and perceptions. In the Indian film industry, including Kollywood, films often act as cultural artifacts that reflect and shape gender dynamics. Despite its rich heritage and cultural significance, Kollywood has been criticized for perpetuating gender stereotypes and inequalities. This study builds on existing literature to explore gender-based discrimination in Kollywood films, focusing on stereotypes, objectification, violence against women, and the representation of women in key industry roles. By analyzing 100 films, this paper aims to illuminate the extent of gender bias and its broader societal implications.

Kollywood, like other Indian film industries, has been historically complicit in reinforcing gender stereotypes. Female characters are often depicted within narrow archetypes, such as the self-sacrificing mother or the helpless victim, which reflect traditional gender norms (Gupta, 2018). This pattern is consistent across regional cinemas, where the "damsel in distress" trope persists, necessitating male intervention (Ravindran, 2017). Such portrayals not only misrepresent the complexity of women's experiences but also restrict their narrative agency. Furthermore, limited representation in decision-making roles, such as directors and writers, amplifies these biases, as male-dominated creative teams often perpetuate traditional gender norms (Kumar, 2020). The societal repercussions of these stereotypes are profound, reinforcing existing power dynamics and limiting progress toward gender equity (Sethi, 2019).

Kollywood films frequently objectify female characters, emphasizing their physical attributes over individuality and agency (Smith, 2019). This objectification, evident in the portrayal of women as mere decorative elements, perpetuates harmful gender norms and reduces their narrative significance. Furthermore, depictions of violence against women—such as harassment and domestic abuse—are prevalent, often presented without adequate

consequences for perpetrators (Sharma & Malhotra, 2020). Such portrayals risk normalizing these behaviors, desensitizing audiences to the gravity of gender-based violence. By examining the frequency and context of objectification and violence in Kollywood films, this study highlights the industry's role in shaping public attitudes toward women and gender relations.

Women in Kollywood face significant barriers in accessing key roles like directing, producing, and writing. This underrepresentation leads to a lack of diverse perspectives in storytelling and reinforces male-centric narratives (Krishnan, 2017). The limited presence of women in decision-making positions affects the thematic content and character development in films, perpetuating stereotypes and sidelining women's experiences. Conversely, initiatives promoting gender parity in the industry, inspired by global movements like "Me Too" and "Time's Up," have begun to challenge this status quo (Smith, 2019). Enhancing women's participation in key roles can lead to more authentic, inclusive narratives that reflect societal diversity.

Economic inequalities, such as pay disparities, are prevalent in Kollywood, with women often earning significantly less than their male counterparts despite comparable contributions (Das, 2016). These disparities extend beyond remuneration, manifesting as unequal opportunities for career advancement and participation in leadership roles (Rajendran, 2021). The glass ceiling effect restricts women's mobility in the industry, further entrenching systemic gender biases. Addressing these disparities is crucial for fostering an equitable work environment, empowering women, and dismantling institutionalized discrimination in the Kollywood industry.

The representation of gender in Kollywood films significantly influences societal attitudes and behaviors. Studies show that cinematic portrayals can either reinforce traditional gender norms or challenge them by offering progressive narratives (Kaur & Gupta, 2020). For instance, the normalization of gender-based violence in films can perpetuate harmful attitudes, while strong, independent female characters can inspire positive societal change (Singh, 2018). As a cultural powerhouse, Kollywood holds the potential to reshape gender dynamics by prioritizing equitable and empowering portrayals of women (Chopra & Patel, 2019).

The growing discourse on gender equity in Indian cinema reflects broader societal shifts toward inclusivity and empowerment. Scholars and activists advocate for breaking away from traditional stereotypes and promoting narratives that celebrate diversity (Rajagopal, 2018). Movements addressing gender equity in media have prompted changes within Kollywood, encouraging industry stakeholders to challenge entrenched norms. By fostering an environment that values women's perspectives and experiences, the industry can contribute to a more inclusive and equitable representation of gender in cinema.

The analysis of gender-based discrimination in Kollywood films is informed by several theoretical frameworks. Feminist film theory, particularly Mulvey's "male gaze," provides insights into the objectification and sexualization of women in cinema (Mulvey, 1975). Representation theory examines how stereotypes and marginalization affect the portrayal of women, while cultivation theory explores the long-term societal impacts of these portrayals (Gerbner, 1960). Additionally, intersectionality and postcolonial studies contextualize the interplay of gender, culture, and power dynamics in Kollywood. Together, these frameworks offer a comprehensive approach to understanding the complexities of gender-based discrimination in Tamil cinema.

Kollywood's portrayal of gender highlights significant challenges related to stereotypes, objectification, and unequal representation. By critically examining these issues through a dataset of 100 films, this study seeks to shed light on the industry's role in perpetuating or challenging societal norms. Aligning with broader movements for gender equity, this research underscores the need for inclusive narratives and systemic change in the Tamil film industry.

Methodology

This study employs a quantitative research design using content analysis to examine gender-based discrimination in 100 selected Kollywood films spanning various decades, genres, and notable filmmakers. Data collection involved curating a comprehensive database of films, documenting details such as titles, release years, directors, character names, and roles, with a focus on female portrayals. A coding scheme was developed to analyze character depth, roles, and gender stereotypes, with trained coders ensuring reliability through inter-rater checks. The analysis included content analysis to assess portrayals, descriptive statistics to quantify patterns, and comparative analysis to explore shifts in representation over time. While the study is limited by its reliance on content analysis, potential subjectivity in coding, sampling biases, and a focus on Tamil-language films, it provides valuable insights into the portrayal of female characters in Kollywood, shedding light on gender dynamics and their implications for the industry and society.

Findings and Discussion

Gender Portrayals in Kollywood Films

The content analysis of 100 Kollywood films highlighted enduring patterns of gender inequality in the portrayal of characters. Female characters are often confined to stereotypical roles, such as the love interest, the nurturing mother, the dutiful daughter, or the victim requiring rescue. These roles frequently lack individuality, agency, or depth, reducing female characters to passive entities within the narrative. Even when women appear in pivotal roles, their character arcs are often secondary to those of their male counterparts, with little room for personal growth or independence. Only a handful of films featured strong female protagonists who challenged societal norms or displayed significant agency. These portrayals reflect not only the entrenched biases within the industry but also a missed opportunity to represent the evolving realities and aspirations of women. The findings align with broader research on Indian cinema, reinforcing the notion that Kollywood continues to perpetuate gender-based discrimination through its storytelling and character construction.

Gender Representation in Lead and Supporting Roles

An analysis of gender representation in lead and supporting roles further revealed glaring disparities. Out of the 100 films studied, only a small percentage featured female protagonists, and even these roles often adhered to conventional gender norms, portraying women as caregivers, victims, or romantic interests. Male characters overwhelmingly dominated the screen time, storylines, and complexity of roles. Supporting roles for women, though numerically greater than lead roles, lacked narrative significance and depth. These characters

were often peripheral to the central plot, serving as catalysts for male character development rather than being integral to the story. In contrast, male supporting roles frequently exhibited more substantial narrative contributions. This lack of equitable representation undermines efforts to create balanced storytelling and restricts the scope of female actors in Kollywood. Similar trends have been observed in Bollywood and other regional cinemas, suggesting a widespread need for reform in gender representation across Indian cinema.

Gender-Based Discrimination On-screen

Gender-based discrimination in Kollywood films was prominently visible in their content. Many films depicted women through the lens of objectification, particularly in song sequences, where the female characters were often reduced to aesthetic or sexual objects. These sequences prioritized visual appeal over character development, reinforcing stereotypes about women's primary value being their appearance. Furthermore, female characters were frequently portrayed as submissive, overly emotional, or dependent on male counterparts, perpetuating harmful gender stereotypes. The prevalence of gender-based violence, whether physical, emotional, or symbolic, was another recurring theme. Such portrayals not only reflect societal inequalities but also normalize and reinforce regressive attitudes toward gender. The cumulative effect of these on-screen portrayals contributes to a culture that marginalizes women and diminishes their representation as complex, multi-dimensional individuals

Women's Participation and Roles in Kollywood

The representation of women behind the camera in Kollywood is equally concerning. Despite notable contributions from a few female actors, directors, and producers, women remain underrepresented in key creative and decision-making roles. Female directors, in particular, are scarce, limiting the diversity of perspectives and narratives presented on screen. Women working in the industry often face challenges such as wage disparities, unequal opportunities, and systemic biases, which hinder their professional growth. Many women in Kollywood also report a lack of support and inclusion, creating an environment that is neither conducive nor welcoming to female talent. The underrepresentation of women in influential roles perpetuates a male-dominated industry culture, further marginalizing women's voices and perspectives in storytelling. Addressing these issues is crucial to creating a more inclusive and equitable work environment that allows for diverse and meaningful contributions from women.

Gender Disparities in the Industry

The structural gender disparities in Kollywood extend beyond the creative realm into the broader industry landscape. Male actors consistently command higher salaries than their female counterparts, perpetuating a significant gender wage gap. This disparity reflects and reinforces the perception that female actors are less valuable or less marketable than their male peers. Similarly, the lack of women in decision-making roles, such as producers and directors, limits their ability to influence narratives, character portrayals, and industry practices. The unequal distribution of authority and resources creates an environment where gender biases can thrive, further marginalizing women within the industry. This systemic inequality not only undermines the contributions of women in Kollywood but also diminishes the industry's potential to tell diverse and representative stories. Structural changes, such as ensuring pay parity, fostering leadership opportunities for women, and addressing gender biases, are necessary to bridge these gaps and create a more inclusive cinematic ecosystem.

Discussion

The analysis of gender-based discrimination in Kollywood films, drawn from a comprehensive study of 100 movies, has illuminated the pervasive and multifaceted challenges associated with gender portrayals in cinema. This research has critically examined the on-screen representations of women, the industry dynamics affecting their participation, and the broader societal impacts of these portrayals. It reveals a cinematic landscape that oscillates between incremental progress and the enduring entrenchment of stereotypes, with significant implications for both the industry and society.

The findings underscore that, while there are occasional portrayals of strong, independent, and complex female characters, these instances are outnumbered by films adhering to traditional gender roles and perpetuating objectification and stereotypes. Female characters are often relegated to secondary roles, serving as adjuncts to male narratives rather than central figures in their own right. This systemic marginalization reflects and reinforces the structural inequities within the industry, highlighting the need for urgent and sustained reform in storytelling practices.

Further, the research identified pronounced disparities in gender representation in lead and supporting roles. Women remain underrepresented in significant roles, with limited screen time and narrative depth compared to their male counterparts. This inequity mirrors broader systemic challenges, such as pay disparities, limited opportunities in creative and leadership positions, and gender-based biases. These issues not only hinder the progress of women within the industry but also diminish the richness and diversity of stories told through Kollywood cinema.

The impact of these portrayals extends beyond the screen, shaping societal attitudes and behaviors regarding gender. Films hold a powerful capacity to challenge or perpetuate societal norms, and Kollywood's portrayals often normalize regressive stereotypes and discriminatory attitudes. This influence underscores the responsibility of the industry to approach gender representation with sensitivity and accountability, recognizing its role as both a mirror and a mold of societal values.

To address these challenges, this research provides actionable recommendations aimed at fostering gender equity in Kollywood. These include advocating for diverse and nuanced roles for women, ensuring equitable representation behind the scenes, closing the gender wage gap, and promoting critical media literacy among audiences. Collaboration among industry stakeholders, the establishment of inclusive guidelines, and a commitment to creating safer and more empowering environments for women are essential steps toward progress.

Conclusion

In conclusion, the findings of this research highlight the critical need for Kollywood to embrace more inclusive narratives and practices. By doing so, the industry can not only improve its own representation of gender but also contribute meaningfully to societal progress toward equity and inclusion. Kollywood has the potential to lead the way in redefining Indian cinema's approach to gender, and this study serves as a foundation for ongoing dialogue, reform, and action toward a more inclusive future.

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SYNERGY OF TRADITION AND INNOVATION: EXPLORING PRACTITIONERS' PERSPECTIVES ON INTEGRATING MODERN TECHNOLOGY INTO TRADITIONAL MEDICINE

P.D.Wickramage¹

Abstract

Traditional medicine encompasses healthcare systems distinguished by their culturally specific healing practices, generational knowledge transfer, and holistic therapeutic approaches. These systems have demonstrated remarkable resilience and adaptability, gaining growing acceptance in the modern world, where technology-driven healthcare predominates. However, it is questionable whether traditional medicine has adapted to present society's changing needs and expectations. Thus, this study attempted to understand the perception of traditional medical practitioners towards integrating technology in the field of traditional medicine. A qualitative study was conducted in the Kegalle divisional secretariat. The purposive sampling method was employed to select respondents. Data collection was done through twenty in-depth interviews and the data was analyzed thematically. The study findings discuss diagnosing and treating patients by integrating technology into medical devices, pharmacology, medical research, and medical education in the traditional medical system. This study reveals how traditional medical practitioners from hereditary healing families evaluate technological integration through the lens of their ancestral medical traditions. The findings show that their perceptions are shaped by their family's therapeutic specializations, perception of technology, and methods of knowledge transmission. At the same time, practitioners expressed openness to technology for preserving and documenting their knowledge and improving their medical system. Some strongly resisted technological modifications of core therapeutic processes, particularly in areas where they believe their family traditions hold unique efficacy. These nuanced responses reflect how deeply embedded family medical philosophies influence practitioners' engagement with modern technology in their practice. The synergy of tradition and innovation is crucial for addressing contemporary health challenges and improving patient outcomes. Practitioners' perspectives on this integration reveal both the potential benefits and the challenges that must be navigated.

Keywords- Traditional medical practitioners, Perception, Technology

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Introduction

Traditional medicine encompasses healthcare systems distinguished by their culturally specific healing practices, generational knowledge transfer, and holistic therapeutic approaches. It varies from one society to another and takes different shapes depending on the culture where it was born. Traditional medicine refers to healthcare practices deeply rooted in cultural traditions, passed down through generations, and centered on holistic healing methods. These systems have shown extraordinary resilience and flexibility, steadily earning recognition in today's world dominated by technology-based healthcare. Traditional medicine can be identified as "the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness" (Traditional Medicine Strategy-World Health Organization, 2002).

It was used as the mainstream of medical care providers in all cultures from the very beginning of human civilization before the introduction of Western medicine which is also known as Allopathic medicine, conventional, or modern. The introduction of allopathic medicine has declined the practice of traditional medicine in many societies, where allopathic medicine is identified as the orthodox medical system and traditional medicine is considered complementary, alternative, or non-conventional. The introduction of Western medicine to Sri Lanka resulted in the marginalization of Ayurveda, which was the mainstay of traditional empirical medicine among the Sinhalese (Hettige, 1991).

Sri Lanka has a well-developed traditional medical system called *Deshiya Chikithsa* which developed based on a series of prescriptions from one generation to another over thousands of years. It was preserved through the oral tradition of memorizing. The body of knowledge, principles, and prescriptions belonged to that was passed through generations. Traditional medicine has shown a unique technology in the treatment process which includes advanced technologies. Udayanga, 2018 in his study argues compared to the allopathic medical system, that Sinhalese medicine in Sri Lanka is capable of accommodating lay reflections more precisely since it is a culturally responsive medical system in the country.

Colonization transformed the Sri Lankan economic, political, religious, social, and cultural context. Westernization headed people away from traditional Sri Lankan medicine towards western medicine. Colonialism has implanted the idea in the mindset of Sri Lankans that traditional medicine is not scientific and technology lacking. Western medicine is described as a political and financial force of exploitation in Sri Lanka. (Dharmasisri, 1997) However, none of the available medical systems can satisfy all the healthcare needs of any population and each system possesses both positive and negative consequences. Accordingly, there is a growing interest worldwide in using traditional medicine because of the high cost of new drugs, lack of curative treatments for some diseases, increased side effects of treatments, and other problems in Western treatments.

Urban living in particular creates conditions that hatch stress-related diseases often most effectively treated by traditional practitioners, such as gastric and duodenal ulcers, migraines, dermatitis, limb pains, and certain kinds of paralysis and hypertension. Thus, in some cases at least, traditional medicine tends to thrive in conjunction with westernization, modernization,

and urbanization, as in the case of countries such as Ghana and Nigeria. (Young, 1988). The study by Liyanage & Ekanayaka, 2018 suggests that traditional medical systems that are based on Ayurveda philosophy have shown greater competency in addressing the root causes of contemporary health hazards. Traditional medicine is extensively used in many parts of the world as a health care system practice parallel to modern allopathic medicine today. There is a growing tendency in traditional systems of medicine to rejuvenate across the globe in integrating modern technological aspects to its field. Advancement in different areas of research: extraction procedures, identification techniques, testing, treatments, and pharmacology to compete with the mainstream health care system which is Western medicine. Many modern drugs are developed from traditionally known drugs which are taken from plant sources which can be used to provide the people of all nations especially in the developing countries, with comprehensive health care. Few examples are Aspirin from *Filipendula ulmaria*, Codeine from *Papaver somniferum*, Ipecac from *Psychotria ipecacuanha*, Ephedrine from *Ephedra sinica*, Quinine from *Cinchona pubescens*, Reserpine from *Rauwolfia serpentina* etc. (Vedavathy, 2003). New approaches needed for the development of traditional medicine and it gives the light that traditional medicine can also use the technology to produce its drugs using the same natural components.

Technology is a form of practical application of knowledge to a particular area by using technical processes, methods, or knowledge. It is to enhance the efficiency and effectiveness of the functioning and satisfying the need. Technology has both negative and positive aspects. In modern society, technology is used in every aspect of life. In Sri Lanka, traditional medicine is deeply rooted in cultural practices, and practitioners often possess extensive knowledge of local medicinal plants and their uses (Padmasiri, 2017). The incorporation of digital platforms for documenting and sharing this knowledge can help ensure its transmission to future generations. For example, creating databases that catalog herbal remedies and their applications can serve as valuable resources for both traditional and modern practitioners (Gamage et al., 2021).

Traditional medical practitioners define technology in different ways. Some practitioners define technology as a component which they have a very less knowledge and further they state that it is not used in their treatment process. Moreover, they think the generational gap between them and at the moment has a vast gap where they cannot adapt themselves accordingly because they are old. Certain practitioners identify technology as a component which does not belong to traditional medicine but as an element of western world. Further they do not possess a clear idea of technology as they do not have enough experience with technology. But they agree on the fact that there might be both positive and negative aspects of technology. In Sri Lanka, there is a growing recognition of the need for policies that support the coexistence of these two systems. Collaborative efforts between traditional healers and biomedical practitioners can enhance patient care and ensure that both systems are utilized effectively (Amarasekara et al., 2014).

According to Ivan Wolferres's notion that there are four possibilities of the behavioral adaptation of practitioners i.e., improving image, concentrating on patients' demands, adapting therapeutic techniques with western medical system and combination of cosmopolitan and

indigenous interpretations of illness which necessarily shed light on integrating modern technology to traditional medicine.

The skills of both disciplines were used collaboratively and were observed successful in a clinic at Colombo where traditional and modern practitioners work together in diagnosing and treating patient. (Aluwihare,1995). Development in the technological field was observed thriving which resulted from an increase in awareness towards the dangers in aspects like undesirable effects, drug reactions, and self-medication issues, etc. Some problems faced today include the presence of a minute quantity of active principle, lack of knowledge regarding dosage calculation, lack of standardized procedures for drug preparation, the toxicity of some herbal drugs, adverse effects, etc. can be solved using modern technology. New researches are being carried out worldwide to address these challenges in traditional medicine. One of the primary concerns among practitioners is the potential loss of cultural identity and the commodification of traditional practices (Fyzer, 2023). For instance, integrating traditional medicine into the national healthcare system can provide patients with a broader range of treatment options while ensuring safety and efficacy through proper regulation (Napagoda et al., 2019). Practitioners' perspectives also highlight the importance of education and training in bridging the gap between traditional and modern medicine. Many traditional healers express a desire for more training in modern medical practices to enhance their skills and improve patient outcomes (Suresh et al., 2023).

Change is inevitable to anything that exists in a society where any social institution should withstand the changes that occur in the system. Consequently, integrating modern technology to traditional medicine can also be identified as a way to satisfy the rising public health care needs parallel to changes in the socio-economic aspects. However, the perception of traditional medical practitioners in integrating modern technology to traditional medicine may be influenced by several reasons. Perception can influence many of the judgments we make as well as have an impact on an individual's behavior. In this instance, it may influence the future of the traditional medicine system. In Sri Lankan health culture traditional medical practitioners' role in the health care system is significant as he or she is important in all aspects of providing healthcare.

Traditional medicine has to face several challenges in its practice especially, in modern society as it is using natural components like herbal plants, prepared manually, more time and effort consuming in preparation and use. Hence, they face difficulties in practicing it parallel to a modern lifestyle and ecosystem. The system of traditional medicine experiences complications because of the unavailability and inaccessibility of necessary components.

Research on TM more acceptable and useful, with the ultimate goal of integrating TM into mainstream health care with sufficient knowledge about the efficacy, safety, and mechanism of action of TM systems. (Telles et al., 2014) Research on traditional medicine need to be focused where systematic reviews that health information (IT) technology can improve quality and safety. (Celik, 2015)

Thematic network can facilitate share and exchange of information through a virtual platform using the new opportunities offered by the information and communication technologies (ICTs) in order to carry out research on traditional medicine in the Euro-Asian countries. The ICTs proved to play a key role in the success of the dissemination of the acquired knowledge between all interesting parties. (Koumpouros & Birbas 2014) There is a need to adopt of

technology into traditional systems. Social media use act as a conditioning factor used by shopkeepers to promote herbal preparations and, in doing so, may provide a critical tool for the long-term survival of traditional plant markets, but at the risk of also contributing to the loss of the culture of home remedies and traditional domestic preparation of natural products. (Semotiuk et al., 2015)

There is a growing debate about the necessary changes that the traditional medicine system needs to embrace in adapting with the socio-economic conditions of modern society. These adaptations have already begun and continuing across the world. Modern medicine should coexist with traditional approaches to health care in African societies. There is increasing interest in traditional practices among modern health practitioners and a willingness to collaborate. Also, traditional practitioners are slowly beginning to incorporate aspects of modern medicine into their practice; notably the use of science and technology. (Bruce, 2001) Some Sri Lankan indigenous medical practitioners use modern medical instruments like the stethoscope, thermometers, and pressure meters, etc. (Kusumaratne, 2005) Folk curers throughout the world practice humoral medicine but in Asia alone educated physicians to continue its learned traditions, most notably China, India, Japan; and Sri Lanka. The institutional forms of professional education and practice have been adapted to indigenous medical traditions. Cosmopolitan medicine coexists with similar institutions of research institutes, colleges, hospitals, professional associations and pharmaceutical companies of indigenous medicine. (Leslie, 1998)

One main argument is that traditional medicine needs to attribute modern technology to exist and compete with allopathic medicine as well as to satisfy the health care needs of modern people and their lifestyles. Nevertheless, some argue that it would destroy the authenticity of traditional medicine. Perception can influence many of the judgments we make as well as have an impact on an individual's behavior. This integrating technology can influence and change the future of the traditional medicine system. In Sri Lankan health culture traditional medical practitioners' role in the health care system is significant as he or she is important in all aspects of providing healthcare and the perception of the traditional medical practitioner's towards integrating modern technology to traditional medicine influence their role in providing healthcare.

Methodology

This study attempted to understand the perception of traditional medical practitioners towards integrating technology in the field of traditional medicine. A qualitative study was conducted in the Kegalle divisional secretariat. It was selected due to its rich heritage in traditional medicine, with popular lineages of practitioners tracing their roots back to the ancient Kandyan kingdom. This region holds a strong cultural and historical connection to traditional healing practices and practitioners and belongs to different ethnic groups. The purposive sampling method was employed to select respondents. Data collection was done through twenty in-depth interviews and the data was analyzed thematically.

Technology as a part of traditional medicine

According to the study sample, some traditional medical practitioners have the perception that technology is not a part of traditional medicine. They think technology is a part of modern science and modern life which comes from the Western world. The definition of the concept is largely based on the view that technology does not belong to traditional medicine and they always refer to modern technology talking about technology and do not consider the available technology in traditional medicine.

“This technology is not a part of our system; it can ruin its nature and essence.”

The above statement reveals that although the respondent thinks that technology is a part of traditional medicine western medicine always uses technology in all aspects of their healthcare system. In contrast to the above idea, some practitioners see traditional medical culture as enriched with advanced technology throughout its existence.

“Our history shows so many examples of how sophisticated our traditional medical technology was. Traditional medical practitioners conducted advanced surgeries even in the Anuradhapura era and those surgical instruments are exactly what we use nowadays. So, technology is not new to us, we do not need to get it from the Western world.”

Thus, technology is an essential element of traditional medical culture. But Sri Lanka has lost the sophisticated technology that existed in ancient times at present. They further mention that technology in traditional medical systems should be developed through sound research.

Medical devices and equipment

Medical devices and equipment improve the quality of diagnosis and treatment. They discuss how Western medicine has integrated technological innovations into medicine, as well as scanning and screening machines, etc., that traditional medicine can use.

“I believe that incorporating technology into traditional medicine can greatly improve its efficiency, effectiveness, and monitoring capabilities. There is potential for traditional medicine to adopt scanning and screening machines to develop its effectiveness.”

Conversely, some practitioners have the notion that traditional medical systems need to develop their own medical devices and equipment to improve the system, and depending on the medical system, medical devices and equipment should be different. Thus, incorporating technology into a traditional medical system will dilute its uniqueness. Further, they talk about how the ancient system has many more examples of medical technology. They further believe that talking about ancient glory is not alone enough but needs to integrate technology for traditional medicine for its devices and equipment.

“I think adopting modern technology could destroy the essence of our traditional medicine. The ancient system already had its form of medical technology, like medicine troughs, stainless steel needles, grinding stones, surgical instruments, and copper containers, which were tailored to its needs.”

It was a sophisticated technology; we did not need to get it from outside. It is already in the system. We need to revive them and that is all."

Certain practitioners have the notion that using new technological equipment affects negatively on the authentic system. Thus, they are not even willing to use it in the future and are even not interested in considering the option. Some believe that the traditional medical system is stagnating as it does not develop parallel to the modern world's advancements. Further, some practitioners believe that patients come to them expecting these advances too.

It is very clear that preserving the uniqueness of traditional medicine is vital, but also embracing technological advancements where appropriate can help the system grow and better serve patients in this fast-changing world."

On the other hand, some practitioners do not hesitate to use devices and equipment if it is available and if they have the training. Certain practitioners have already started using stethoscopes, thermometer pressure meters, etc. In the study sample especially, practitioners who obtained training from the local and international institutes of traditional medicine use at least one modern medical instrument.

Pharmacology

Drugs or medicines are a very important part of the health care system. Some traditional medical practitioners believe that pharmacology needs technology because of the modern lifestyle. They further mention that patients always complain that they have difficulties in finding herbal plants. Some struggle as they do not know to how identify those herbs.

"Preparing herbal medicine manually and finding medicinal plants for them is very difficult. Patients often complain about these things. We practitioners also put lot of efforts to practice it along this modern life style. It is difficult for us as well. Medicinal plants and ingredients are not easy to find fresh. I am getting older and none of our children are interested in contributing to it."

On the other hand, some patients do not have enough time or facilities to prepare those herbs. Thus, preparation and use are difficult, parallel to the modern lifestyle and ecosystem. Thus, he mentions that it is challenging for the traditional medical system. Thus, technology can provide a solution for that.

And also, certain practitioners hold the notion that using technology for pharmacology in traditional medicine will destroy its quality an efficacy in curing. It is due to the idea that using technology in drug preparation destroys its natural essence.

"If we prepare these medicines with machines, they will lose their natural essence. Our ancestors prepared these recipes, we cannot change them the way we want. Maintaining traditions is crucial for preserving the authenticity of our traditional system."

Usually, traditional medicines are prepared in fresh batches most of the times. Some practitioners think that the above nature should be maintained. If not, they perceive it as a harm to the system. This idea depicts that some practitioners hold negative perceptions regarding this.

Some practitioners describe already some has started adding technology to its product. Thus, they have developed industry-based Ayurveda drugs. Syrups, tablets, balms, oils, etc. where many practitioners use them in their treatments.

“Department of Ayurveda has begun industrial-scale production of traditional medicines in different forms. These products have gained acceptance among practitioners and patients alike.”

Therefore, the process of using technology for traditional medicine has already started. Especially, in the institutional and policy level Sri Lankan government has stated that through the Department of Ayurveda.

Some practitioners have identified that people are very much interested in natural and herbal products now. Accordingly, it is a very good opportunity for traditional medical system to develop. Thus, there is a growing market for technologically improved and produced traditional medicine.

“There is a growing interest in natural products in the present not only in Sri Lanka but also around the world. It is an excellent opportunity to expand the reach of traditional medicine. It is only possible through incorporating technology”

Especially, popular sector of traditional medicine is producing several products for this. Using technology in drug preparation can solve issues. Raw drug storage, washing, dispensing, quality control, packing, sealing, labeling can be improved through technology.

Information technology

Information technology has made significant contributions to the Western medical system where both physicians and patients experience its benefits.

“Information technology has immensely transformed the Western medical system. Unfortunately, the traditional medical system is not ready to embrace these advancements yet.”

It also facilitates the distribution of any type of medical information like drug information, research, studies, patient history or records, etc. within a few seconds. But still, traditional medical system does not use these aspects largely. Some practitioners hold the notion that those advancements can be used in traditional medicine too. Conversely certain practitioners believe that the traditional system maintains its knowledge in a way which is special to it.

Especially traditional ways to employ to keep the secret prescriptions increase the possibility of losing the knowledge and especially it avoids distribution of knowledge. Thus, the way traditional medical system uses special methods to communicate which increase it's prone to loss especially, among medical genealogy families.

“We have preserved our family knowledge, through kata wahara (oral tradition) and that is how secret prescriptions are passed down within families for generations. We cannot share outside our lineage. It is a disrespect to our fore our ancestors.”

Moreover, most of the available literature related to traditional medical system written in Sanskrit and sometimes in old Sinhala language which is very difficult to understand. Some aspects are described using poems and use some techniques of hiding the deep meaning. These aspects act as a barrier to share the available knowledge.

“As the older generation fades, the risk of losing this wisdom grows. Using information technology to digitize, decode, and preserve this knowledge could be a way forward, ensuring that it is not only protected but also accessible to future generations while respecting its unique traditions.”

Especially there is a threat to lost especially with the older generation and also in the process of handing down to the next generations. Using Information technology can overcome the challenges they face.

Medical research and technology

Medical research is important in introducing and testing new procedures and products to help prevent, diagnose, and cure diseases. It provides evidence and improves the scientific nature of knowledge by building and distribution of traditional medical knowledge for the betterment of mankind.

“Even in the ancient traditional medical system, research practices were encouraged. When students were trained, they were not just expected to memorize knowledge but also to prove their understanding by creating something new.”

The ancient traditional medical system has practiced norms of encouraging the student to find new medicines and methods to enhance the nature of medicine. When the knowledge is given to the students, they have to prove their needed level of knowledge to their teacher and to prove that they have reached the utmost level, they should produce a new medicine, combination or method.

But the existing institutionalized system of traditional medicine is not practicing it.

According to some medical practitioners’ traditional medicine has a proven long history of use. But in today’s world, that is not enough.

“Our system is Ath dutui prathyakshai which means proven has a long, proven history of use—what we call (seeing is believing). But research can prove it in a scientific way which will accepted by the present world and its people.”

They further mentioned the modern world demand evidence, and research is essential to prove the efficacy of traditional treatments. Research can also address the false accusations often made by critics and some western medical practitioners on traditional medicine. Research is very important to prove its efficacy to the modern people who always seek for evidence.

“Foreign countries and individuals have taken patents for knowledge that has been part of our tradition for centuries. This is a serious issue that we believe could be addressed through advanced research and proper documentation.”

The above statement reveals that the traditional medical system faces challenges due to lack of medical research that uses technology. It highlights that medical research can prove the efficacy of traditional medicine. Especially, it can eliminate the false complaints that come towards the traditional medical system. Further many practitioners are willing to have research as they can claim the ownership of intellectual property. They were also noting about the foreign people and countries hold the patents of knowledge which were using in traditional medicine for hundreds of years. And also, certain practitioners describe that medical research enriched with advanced technology can give solutions to number of issues existing in the field of traditional medicine. Now there are numerous issues due to the lack of research with advanced technology.

Medical education

Medical education of traditional medicine was originally based on oral tradition of memorizing. The body of knowledge, principles and prescriptions were belonging to that. They were handed through generations.

" For those of us who come from medical genealogy families, knowledge is passed down strictly within the family, as per the concept of pita nodeema and on oral traditions, where we don't share our family's medical secrets with outsiders. "

To memorize, the principles and prescriptions were in rhyme or stanzas called *sloka*. It was later codified or written down in olla leaves. Though, it has developed as a formal educational institute with medical schools which offer diplomas, degrees etc. as well, a registration process is there for the informally trained practitioners especially for the medical genealogy/traditionally trained. The system of education in traditional medicine is very unique and do not use technology much. But there is growing tendency in that. Some practitioners do not have much knowledge about the new technology which can be used in teaching and learning process.

"We are aware that the world is changing. But among many of us has only limited knowledge about how new technologies could enhance the teaching and learning process. Department can introduce that knowledge to us. (Respondent,).

Especially among medical genealogy families, are not willing to share their family knowledge though they have medical books within their families. Especially among medical genealogy families, are not willing to share their family knowledge though they have medical books within their families. Especially, the concept of *pita nodeema*, which they do not share the family knowledge outside their families. Conversely some practitioners have the notion that the technology should be adopted in medical education as like the western medical education.

Conclusion

In concluding it is clear that traditional medical practitioners hold positive and negative as well as neutral perception in integrating modern technology to traditional medicine. It influences their decision-making process on providing health care to people. And also, it affects their future expectations regarding the practice of traditional medicine. Traditional medical practitioners' perception is different due to several reasons and they hold different perception regarding different aspects of traditional medical field. These perceptions of traditional medical practitioners can influence the future of traditional medicine system. Traditional medical practitioners' perception is different due to several reasons like the nature of training whether they are coming from medical genealogy/traditionally trained. Further, their perceptions are shaped by their family's therapeutic specializations, perception of technology, and methods of knowledge transmission., Specialty area like general practitioners and other specialty area practitioners, nature of treatment, clients' responses on constrains of using TM, experiences, availability of and accessibility to technological resources etc.

Some traditional medical practitioners are not interested in technology where they think they do not want it to continue with the system of traditional health care. Some practitioners' do not have a clear idea of technology as he is not having enough experience with technology. But he agrees on the fact that there might be both positive and negative aspects of technology. Also, there is a perception technology is part of everyday life of people disregard the time and space. Traditional medical practitioners' think that the technology as a part of traditional medicine as western medicine always use technology in all aspects of their health care system. Some has not identified technology as a necessary component of medical system. But most of the respondents identify technology as a necessary component of traditional medicine.

Traditional medical practitioners holds both positive and negative perception in integrating technology to medical devices and equipment, pharmacology, information technology, medical research and technology and medical education.

They perceive that technology can provide solutions for challenges faced by the traditional medical system. However, it there are some challenges like lack of resources, financial constraints, lack of knowledge and training, issues in government policies, etc. in integrating technology in the field of traditional medicine. Certain traditional medical practitioners' have started integrating technology as a response to patients demand.

This study reveals how traditional medical practitioners from hereditary healing families evaluate technological integration through the lens of their ancestral medical traditions. At the same time, practitioners expressed openness to technology for preserving and documenting their knowledge and improving their medical system. Some strongly resisted technological modifications of core therapeutic processes, particularly in areas where they believe their family traditions hold unique efficacy. These nuanced responses reflect how deeply embedded family medical philosophies influence practitioners' engagement with modern technology in their practice. The synergy of tradition and innovation is crucial for addressing contemporary health challenges and improving patient outcomes. Practitioners' perspectives on this integration reveal both the potential benefits and the challenges that must be navigated.

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