

## **SUB THEME 02**

**Impact of Technology on Industry, Society,  
Labour Market, and Human Wellbeing**

## **The Impact of British Colonial Policies on Coconut Cultivation: A Study of the Eravur Pattu Division**

Nilanthini Chenthurran

*Department of History, University, Sri Lanka  
nilanthinic@esn.ac.lk*

### **Abstract**

The British colonial administration had been promoting development, especially through its plantation policies. In the case of coconut cultivation, these policies did offer some benefits, such as the introduction of organized farming methods and infrastructure, which helped to expand coconut farming on unused lands. However, this development mainly served the British government's economic goals. The administration took control of large areas of uncultivated land for coconut cultivation, driven by their need for revenue and taxation. While beneficial for the colonial authorities, these policies often affected the harmed local communities by disrupting their traditional practices and livelihoods. Using the theory of Edward Gibbon Wakefield, 'Systematic Colonization' for this research.

The land of Eravur Pattu was rich in coconut cultivation, with coastal land, favorable weather, fertile soil, and easy access to the labour community. Therefore, the British systematically approached the colonized system by encroaching on uncultivated land and encouraging coconut cultivators. They introduced a tax system, utilized the existing caste system for their benefit, built bungalows, established coconut estates, developed traditional methods of the coir industry, extended the labour community, opened toddy taverns, and systematic colonization changed the socio-economic aspects. This led to the British economy and rural development as well.

This research examines the influence of British colonial policies on coconut cultivation in the Eravur Pattu division, located in the Batticaloa district of Sri Lanka. The objectives are firstly to identify the specific colonial

policies enacted by the British that directly impacted coconut farming practices in this division and secondly to evaluate the socio-economic effects these policies had on the local Tamil-speaking communities, particularly in Eravur Pattu. The research question is how and why British colonial interventions altered coconut cultivation, examining the mechanisms by which these changes served colonial interests. The hypothesis is that Eravur Pattu had its traditional coconut cultivation methods, later became a focal point of British exploitation and was manipulated through policy reforms and economic strategies for profit.

The study employs historical methodology, using primary sources such as British colonial records, maps, interviews and field visits. By analyzing these sources, the research seeks to reconstruct the colonial framework that governed agricultural practices and reveal how these policies reshaped the socio-economic landscape of the Eravur Pattu division. This research contributes to a deeper understanding of colonial economic exploitation and also its long-term impact on the local communities.

**Keywords:** *British Policies, Bungalow, Coconut Estate, Development*

## **Introduction**

Coconut has been grown in Sri Lanka since pre-Christian times. By the fourteenth and fifteenth centuries, coastal areas were full of coconut plantations. The British encouraged the establishment of large coconut plantations, and most of the plantation owners were indigenous entrepreneurs, while Europeans owned only about five percent of the coconut land (Siriweera 2023). According to the Ceylon Directory Calendar, coconut palm cultivation consisted of 250,000 native topes, 50,000 European plantations, and a total of 300,000 plantations (Ferguson 1880). By 1929, the total land under coconut cultivation was around 1,100,000 acres (The Ceylon Blue Book 1929). It assisted many industries, such as arrack, toddy, copra, desiccated coconuts, oil, coir, charcoal products and timber.

The theory of Edward Gibbon Wakefield, 'Systematic Colonization' which combined the economic, social and political aspects of colonization into one unified comprehensive theory. It proposed to bring land, labour and capital into a harmonious ratio through control of the number of emigrants, the extent of land used and the capital invested in the colonies. (Shultz 1965)

Based on this theory, British policies in Ceylon had a profound impact on the island, shaping its political, economic, and social structures. One of these policies involved land reform and the plantation economy. According to the Crown Lands (Encroachment) Ordinance of 1840, the policy declared all unoccupied and uncultivated lands as crown property, significantly impacting traditional land ownership patterns, especially among rural communities. With the introduction of the plantation economy, the British promoted economic crops like tea, coffee, rubber, and coconut. Thus this led to significant changes in land use and labour patterns. In the 19<sup>th</sup> century under the British administration, coconut cultivation resulted in medium-sized mixed plantations and large-scale plantations in addition to the subsistence home gardens. (Sumiththapala de Silva 1979).

### **Literature Review**

James Emerson Tennent's book *Ceylon: An Account of the Island Physical, Historical and Topographical with Notices of Its Natural History* highlights coconut cultivation in the Batticaloa district, with Eravur Pattu being a part of this district. Other secondary sources throw more light broadly on coconut cultivation in Ceylon.

'James Emerson Tennent' stated that Batticaloa had abundant coconut palms, which were one of the sources of income. 'Approaching Batticaloa, we exchanged these luxuriant pastures and wooded park-like landscapes for swampy marshes overgrown with brushwood and swarming with leeches. Finally, on coming within a few miles of the sea, we rode across a sandy plain only partially cultivated, which, as far as the eye could reach, had long groves of coconut palms discernible on its verge. These fringed the shore and

stretched thirty miles north and South of Batticaloa' (James Emerson Tennent 1860).

This natural embankment is covered from one extremity to the other with coconut trees, many of them of very ancient growth. In cultivation, the remarkable luxuriance of the trees and the unusual weight and richness of the fruit attracted the attention of European speculators. The entire coastline for sixteen miles North of Batticaloa and for twenty-seven miles to the South is now one continuous garden of palms, pre-eminent for beauty and luxuriance. One unripe nut weighing fifteen pounds was brought to me, and a tree in full bearing produces annually from one hundred and twenty to one hundred and fifty nuts, equal to a ton of fruit from a single coconut palm in the course of a year. Such is their excellence that the nuts of this district were sold for 31 a thousand, while those on the southwestern side of the Island do not fetch more than two-thirds of this price. (James Emerson Tennent 1860).

### **Methods and Methodology**

The study enforces the historical methodology, taking into consideration primary sources such as British colonial records, maps, interviews and field visits. By analyzing these sources, the research to reestablish the colonial framework that administrated agricultural practices and disclose how these policies modified the socio-economic landscape of the Eravur Pattu division. This research will contribute to a deeper understanding of colonial economic exploitation and also its long-term impact on local communities.

### **Results and Discussion**

#### **The Coconut Estate and British Bungalow in Eravur Pattu:**

This research analyzes the impact of British policies on coconut cultivation and the effects on various sectors in the Eravur Pattu division of Batticaloa, which featured a prominent coconut estate and a British bungalow.

Downie Amma Estate: Based on the interview, there was a coconut estate and a British bungalow in Mylampavelly, that existed during the colonial period. The Ceylon Almanac and Annual Register highlighted Mylampavelly in

the division of Eravur Pattu as the location of a coconut estate, with Dr. Sortain listed as the proprietor. Later, Mrs. Atherton became the proprietor of Mylmpavely Estate. Currently, the regional Coconut Cultivation Board operates near the coconut estate in Mylmpavely. During the civil war, the two British bungalows and their seven quarters were demolished, and there is no evidence remaining of them. (interviewed person: Uthayachandran, Coconut Cultivation Board, Mylmpavely).

According to interviews with local people, two bungalows were built within the coconut estate in Mylmpavely, where Mr. Ponnann served as a supervisor. The estate was known as Downie Amma Estate (interviewed persons: Ponnuthurai and Pakkiyarajah Mylmpavely, Ages 67, 61). British maps from 1900 also indicate the presence of two bungalows in the Mylmpavely area, marked as code no. 37 on the map. Currently, the Coconut Cultivation Board operates functions in this area. The map also highlights the existence of a bungalow in Punnakudah, marked as code no.13. Based on the interview, there was a coconut estate and bungalow in the Punnakudah area, managed by a British man named Mr. Philip. According to the Ceylon Almanac and Annual Registers, Mr. Dioxen was the proprietor of the Punnakudah estate.



British Bungalows in Eravur Pattu

*Source: Map of Ceylon Survey Department: 1900*

During the British administration, Eravur Pattu had a significant coconut estate, as referenced in the Ceylon Almanac and Annual Register (1854). The British established coconut estates in various parts of Ceylon for several reasons, primarily driven by economic interests and the expansion of global trade. Coconut products, especially coconut oil, copra, and coir, were highly valuable in the global market.

<b>Coconut Estates in Eravur Pattu</b>				
<b>Situation</b>	<b>Estates</b>	<b>Proprietor</b>	<b>Estates</b>	<b>Proprietor</b>
Eraoor Pattu	Sandavelly	Messrs.Munro	Punnecoodah	Mr.Dioxen
	Sandavelly	Col.Mpencer	Maylambavelly	Mrs.Atherton
	Chittandy	B.Kidd	Tannamone	Dr.Sortain
	Mylambavelly	Dr.Sortain	-	-
	Tannumoney	J.C.Sortain	-	-
The Ceylon Almanac and Annual Registers 1854			The Ceylon Almanac and Annual Registers 1862	

The tropical climate and coastal location of Eravur Pattu provided ideal conditions for large-scale coconut cultivation. The coconut estates generated significant export revenue for the British Empire, and the development of ports and transportation networks facilitated the export of coconut products. The Tamil-speaking communities in the coastal areas of the Eravur division were often employed on these estates, providing a steady labour force.

One of the coconut estate areas in the village called 'Tannamone' (Thannamunai) means 'coconut point'. The landscape in this area is characterized by thick groves and plantations of coconut trees. Therefore, the Eravur Pattu division, being a hub of the coastal zones with dense coconut growth, was favorable for establishing estates and bungalows.

**The Coir Industry and Oil Mill in Eravur Pattu:**

The coir industry in Eravur Pattu produced rope and mats from coconut fiber, becoming a significant employer in the division. A small but labour-intensive coir industry that was developed in the Chenkalady area, was contributing to the growth of a smallholder industry. A coir industry that was in the vicinity of the Punnakudah bungalow, had employed many women workers from the Eravur Pattu division.

Near the Punnakudah bungalow, there was a coir industry where many women from the Eravur Pattu division worked in this factory. Now this industry is no longer operational. (interviewed persons: Theivanayagam and Selvarajah, Eravur, Age:74, 70).

In the Eastern Province, there were 26 oil mills (Ferguson 1880). The export value of coconut oil from the Eastern Province was Rs.9.94, and copra was valued at Rs. 1,478.43 in the year 1918 (The Ceylon Blue Book 1918). According to interviews, some individuals also operated copra and oil mills in the division.

**Toddy Tavern in Eravur Pattu:**

During the British era, the arrack monopoly in Ceylon significantly impacted local consumption of arrack, a distilled spirit made from the sap of coconut palms. The absolute privilege of retailing arrack in various districts of Ceylon was auctioned annually. Distillers paid an annual license fee of 30 rupees, with wholesale prices ranging from 75 cents to 1 rupee per gallon. In the Eastern and Southern provinces, arrack was sold at 3 rupees per gallon, while in the Northern and Central provinces, it was priced at 3.25 rupees per gallon (Ferguson 1880).

Governor William Gregory played a remarkable role in bringing down the number of taverns, from 1,494 in 1870 to 1,092 by 1876. By 1880, the Eastern Province had 79 taverns (Ferguson 1880). According to the Revenue Administration Report of the Eastern Province (1891), coconut jaggery, a common food item, was priced at 0.6 cents per pound (Administration Report 1891).



In Eravur Pattu, particularly in the area known as Aarumukathankudiruppu, a toddy tavern is operated currently. Toddy, a natural alcoholic beverage made from the sap of coconut palm trees, was sold and consumed locally. People would drink toddy and often pair it with traditional foods like jaggery hoppers.

The community living around the Eravur Pattu division included a group known as the 'Toddy Drawers' (Shananar), who were responsible for collecting the toddy. They formed an association that supplied the toddy exclusively to the tavern, prohibiting individual sales. This system remains in place, as the toddy tavern still operates in Arumugathan Kudiyeruppu in the Eravur Pattu division.

### **Conclusions and Remarks**

The resources from coconut cultivation in the Eravur Pattu division benefited the local and the British population. The region's natural soil conditions and transport access were particularly favorable for coconut cultivation, hence the British established coconut estates with three bungalows in the area. Moreover, they encouraged the development of the coir industry, desiccated coconuts, copra, oil mills, and toddy taverns. These initiatives that were taken by the British, while strengthening their economic interests the local communities too enjoyed many benefits.

The Vaddas community of the Eravur Pattu division lost their lifestyle and heritage as a social impact of the extended coconut plantations in the area. The coastal Veddas in the Batticaloa district (of which the Eravur Pattu division is a part) lost their shelters, lifestyle and rituals due to European colonization (Yuvi Thangarajah 1994). Later, they integrated with nearby Tamil society.

Presently, the caste system has gradually changed due to the modern education system. The younger generation is no longer interested in this type of work and tends to hide their caste from their elders. The coir industry is no longer functioning, the bungalows have been completely demolished, and the community has settled. The coconut estate properties have gradually been

divided among individuals. Therefore, the British policy on plantation agriculture had an impact on both the social and economic aspects of Eravur Pattu with systematic colonization.

### **References:**

- The Ceylon Blue Book (1918, 1929), Government Printers, Ceylon.
- The Ceylon Almanac and Annual Register, (1854, 1860, 1862), Government Printers, Ceylon.
- Map of Ceylon Survey Department (1926)
- Revenue Administration Report of the Eastern Province (1891)
- Ferguson. A. M. & J, Ceylon Directory Calander (1880-81), Ceylon Observer Press
- Siriweera.W. I. (2023), Feudalism to Capitalism: Historical Transformation of Sri Lankan Society, Sarasavi Publishers.
- James Emerson Tennent (1860), Ceylon: An Account of the Island Physical, Historical and Topographical with Notices of Its Natural History, Antiquities and Production, Asian Educational Services, Vol-II.
- Robert J.Shultz (1965), Thesis: Edward Gibbon Wakefield and the Development of His Theory of ‘Systematic Colonization,’Department of History and the Faculty of the College of Graduate Studies, University of Omaha
- Hewa Willaddarege Sumiththapala de Silva (1979), Thesis -The Coconut Industry in Sri Lanka: An Analysis of Government Intervention Measures, Australian National University.
- Yuvi Thangarajah (1994), Veddas of the Eastern Coast, National Science Foundation Sri Lanka.

### **Interviewed persons:**

- Mr. Ponnuthurai. N, Retired Agriculture and Agrarian Officer, Mylampavelly, Age: 67
- Mr. Pakkiyarajah. N, Temple President, Mylampavelly, Age: 61
- Mr. Selvarajah. S, Retired Principal, Eravur, Age: 70
- Mr.Theivanayagam. S, Retired Assistant Director, Department of Hindu Religious and Cultural Affairs, Eravur, Age: 72
- Mr. Uthayachandran. P, Regional Manager, Coconut Cultivation Board, Mylampavelly. Age: 45
- Mrs. Julian. A. E, Management Assistant, Coconut Cultivation Board, Mylampavelly, Age: 47
- Mr. Chanthiran. S, Trader, Chenkalady, Age: 70

## **Investigating Determinants of Organizational Commitment Mediated by Job Satisfaction among Public Sector Employees in the North Western Province of Sri Lanka**

P. A. B. H. Amarathunga<sup>1</sup>, K. P. T. Sajeewani<sup>2</sup>

<sup>1,2</sup>*Department of Business Management, Wayamba University of Sri Lanka, buddhini@wyb.ac.lk*

### **Introduction**

Organizational commitment significantly improves productivity, workforce quality, and overall performance. It indicates personal determination and loyalty toward their organization, which significantly influences their performance and behavior. Meyer (2002) defines individual commitment as a driving force toward organizational goals and objectives. Meyer and Allen (1997) identified three types of commitment: affective, continuation, and normative, which reflect various aspects of employee attachment. Scholars in different contexts have disclosed the relationship between organizational commitment and job satisfaction, along with effective organizational communication and transformational leadership. Transformational leadership is a significant driver of organizational commitment (Purwanto, 2020). Organizational communication can encourage worker's commitment by motivating transparency, trustworthiness, and commitment (Macarau et al., 2022; Ramos-Maçães & Román-Portas, 2022; Guffey & Loewy, 2022). Job satisfaction of employees is also showcased as a critical mediator in the relationship between organizational commitment and employee performance, emphasizing the importance of providing a favorable working environment in the organization (Abdirahman, 2018; Hendri, 2019; Gasengayire & Ngatuni, 2021). Organizational commitment is important in Sri Lanka's public sector, notwithstanding its difficulties. Research studies have identified challenges with commitment among secondary-level workers, which affects the quality of service and overall performance (Silwa, 2019;

Navaneethan, 2013). Recently conducted studies mentioned that required to find strategies to enhance commitment and solve the systematic issues. (Rathnayake, 2021; Nadeeka & Weerasinghe, 2020; Kappagoda et al., 2020). The Sri Lankan economy considers high employee turnover. Accordingly, it is necessary to find the factors that impact on organizational commitment of secondary-level employees in the North Western Province.

### **Literature Review**

Organizational commitment, an important factor in worker retention and performance, includes three aspects: affective commitment, in which workers remain as they'd prefer to; continuance commitment, in which they remain because they have to; and normative commitment, in which they feel legally bound to remain (Allen & Meyer, 1990). Transformational leadership, which motivates and encourages individuals besides their desires, significantly boosts organizational commitment. According to research, transformational leaders enhance commitment by matching personal beliefs with business goals and building emotional relationships (Eliyana & Maarif, 2019).

Commitment and job satisfaction are also highly dependent on efficient business communication. To facilitate establishing objectives, performance feedback, and engagement, it uses both formal channels—such as instructions and reports—and informal channels—such as social interactions (Robbins & Coulter, 2007). Research indicates that open communication promotes trust and involvement, which strengthens commitment (Macarau et al., 2022; Lewis, 2019).

Job orientation, target achievement, and rewards are some of the aspects that affect job satisfaction, which is directly linked to organizational commitment (Vroom, 1964). The expectation theory indicates that motivation and contentment arise from the belief that dedication yields desired outcomes (Renyut et al., 2017). Important elements influencing organizational commitment in Sri Lanka have been discovered through research, such as work satisfaction, transformational leadership, and demographics (Silwa, 2019; Paranagama, 2019; Nadeeka & Weerasinghe, 2020). However, there is a

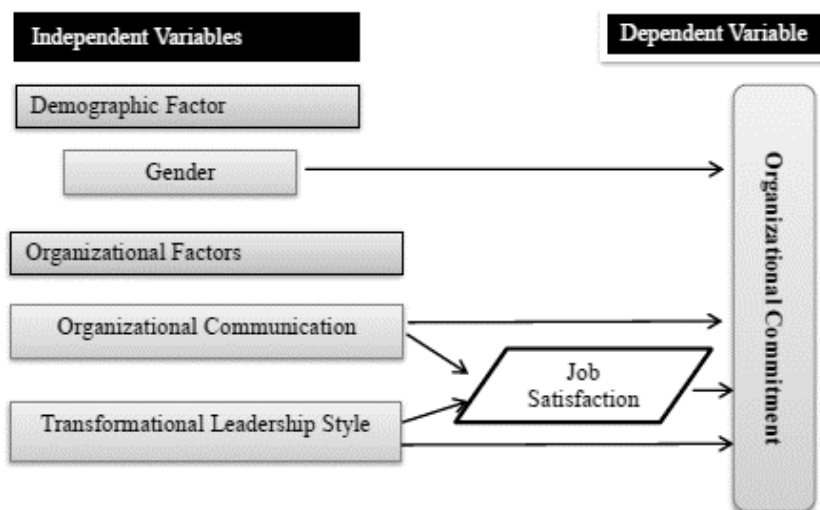
gap in understanding these factors within the secondary education sector in the Northwestern Province. Current research predominantly focuses on healthcare and broader public sector contexts, underscoring the need for targeted studies to develop effective strategies for enhancing commitment in this specific educational setting.

### Conceptual Framework

The Conceptual framework investigates how demographic factors, transformational leadership, organizational communication, and job satisfaction influence organizational commitment among secondary-level employees in Sri Lanka's Northwestern Province, based on existing literature and theories. Accordingly, as depicted in Figure 1, the Conceptual framework and five hypotheses were developed to measure the relationship.

Figure 1. Conceptual Framework

(Source: Reig-Botella et al., 2022)



H1: There is an impact between the gender of employees and organizational commitment, H2: There is an impact between transformational leadership and organizational commitment. H3: There is an impact between organizational communication and organizational commitment, H4: Job satisfaction mediates the impact between organizational communication and organizational

commitment, H5: Job satisfaction mediates the impact between transformational leadership and organizational commitment.

### **Methods and Methodology**

This study implies a positivist research philosophy, which demonstrates objectivity and empirical data analysis. The deductive approach is applied, initiating hypotheses determined by existing theories and evaluating them through accurate analysis. The research strategy is quantitative, with Likert scale surveys used to obtain organized numerical data on organizational commitment, leadership, communication skills, and work satisfaction. A cross-sectional time frame is used to capture a picture of organizational commitment among secondary-level public sector employees in Sri Lanka's North Western Province. The sample consists of 384 respondents chosen at random to ensure representativeness and avoid prejudice. Data collection includes both digital and paper surveys. The study is performed using IBM SPSS, utilizing techniques including descriptive statistics, and correlation analysis, Analysis is performed using IBM SPSS, with techniques including descriptive statistics, correlation analysis, t-tests, and multiple regression with Sobel tests. This analysis explores relationships between variables and tests mediation effects. Specifically, hypothesis testing examines the impact of gender, transformational leadership, and organizational communication on organizational commitment, as well as the mediating role of job satisfaction in these relationships. This comprehensive approach ensures robust and reliable findings on the determinants of organizational commitment.

### **Results and Discussion**

The demographic analysis of the 384 respondents in the North Western Province reveals key insights into the workforce composition. As depicted in Table 1, a majority of employees work in Divisional Secretariat Offices (52.1%, 200 respondents), while females dominate the workforce at 78.1% (300 respondents). This gender disparity suggests a strong preference for government employment among women, potentially influencing workplace culture. In terms of designations, development officers represent 49.5% (190

respondents), indicating a focus on development-related roles. Age distribution shows that 49.7% (191 respondents) are aged 36-45, reflecting a mature workforce, while 27.9% (107 respondents) are aged 26-35, suggesting a blend of experience and youthful energy. Experience levels indicate that 38.8% (149 respondents) have 6-10 years of service, and 34.1% (131 respondents) have 11-20 years, highlighting a knowledgeable workforce. This demographic landscape underscores the importance of tailored training and development initiatives in the public sector.

<b>Demographic Characters of Sample</b>	<b>Frequency</b>	<b>%</b>
<b>Working Place Analysis</b>		
Divisional Secretariat Office	200	52.1
Zonal Educational Office	200	52.1
Cooperative Development Commissioner's Office	92	16.4
Other Government Office	29	24.0
Total	384	100.0
<b>Designation</b>		
Development Officer	190	49.5
Management Assistant	73	19.0
Cooperative Development Officer	56	14.6
Grama Officer	31	8.1
Teacher	16	4.2
Other Secondary Level Officer	18	4.7
Total	384	100.0
<b>Age</b>		
Less Than 25	3	.8
Between 26-35	107	27.9
Between 36-45	191	49.7
More Than 45	83	21.6
Total	384	100.0

<b>Gender</b>		
Male	84	21.9
Female	300	78.1
Total	384	100.0
<b>Working Experience</b>		
Below 5 Years	58	15.1
Between 6-10	149	38.8
Between 11-20	131	34.1
More Than 21 Years	46	12
Total	384	100.0

Table 1: Demographic Characters of Sample Respondents Analysis

### **Hypothesis Testing**

H1: There is a positive relationship between the gender of employees and organizational commitment.

The hypothesis aimed to establish a positive relationship between employees' gender and organizational commitment. However, an independent sample t-test revealed no significant difference in organizational commitment between male ( $M=2.5417$ ,  $SD=.42336$ ) and female ( $M=2.5465$ ,  $SD=.40377$ ) groups ( $t(384) = -.096$ ,  $p=.923$ ) as depicted in Table 2.

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Organizational Commitment	Male	84	2.5417	.42336	.04619
	Female	300	2.5465	.40377	.02331

Table 2: T-test Test Result of Categorical Variable

The findings did not support the hypothesis, accepting the null hypothesis and rejecting the alternative. The comprehensive t-test analysis, considering equal and unequal variances, consistently indicated no meaningful



disparity in organizational commitment between male and female secondary-level employees in the North Western Province of Sri Lanka's public sector.

H2: There is a Positive Relationship Between Transformational Leadership & Organizational Commitment.

The Pearson correlation between transformational leadership and organizational commitment was significantly low but positive ( $r=.214$ ,  $p<.000$ ), supporting H4. As shown in Table 3, the findings suggest that increased servant leadership behavior corresponds to lower employee commitment. The correlation value of .005 rejects the null hypothesis, indicating a 21% explanation of employee commitment by transformational leadership in North Western Province, Sri Lanka.

		Transformational Leadership
Organizational Commitment	Pearson Correlation	.214**
	Sig. (1-tailed)	.000
	N	384
**. Correlation is significant at the 0.01 level (1-tailed).		

Table 3: Correlation Results of Transformational Leadership

H3: There is a Positive Relationship Between Organizational Communication & Organizational Commitment.

The correlation between gender and organizational commitment is statistically significant ( $p=0.000$ ) at the 0.01 level, with a Pearson correlation coefficient of .259, indicating a low positive relationship. Table 4 confirms this, supporting the alternative hypothesis of organizational communication and rejecting the null hypothesis. This implies a 25% explanation of employee commitment by organizational communication in North Western Province, Sri Lanka.

		Organizational Communication
Organizational Commitment	Pearson Correlation	.259**
	Sig. (1-tailed)	.000
	N	384
**. Correlation is significant at the 0.01 level (1-tailed).		

**Table 4:** Correlations Result of Organizational Communication Variable

### Mediation Analysis

H4: Job Satisfaction is Mediating the Relationship Between Organizational Communication & Organizational Commitment.

The study explores whether job satisfaction mediates the link between organizational communication and organizational commitment and the mediation analysis was performed through the Sobel test. Initial correlations indicated a low positive relationship. Multiple regression, as shown in Table 5, demonstrates that organizational communication positively predicts organizational commitment ( $B=.129$ ,  $t=3.781$ ,  $p<.001$ ). Additionally, job satisfaction significantly mediates this relationship ( $B=.225$ ,  $t=4.423$ ,  $p<.001$ ).

Co-efficients <sup>a</sup>					
Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
		B	Beta		
1	(Constant)	2.089		12.522	.000
	Organizational Communication	.225	.230	4.423	.000
a. Mediation Variable: Job Satisfaction					

**Table 5:** Regression analysis result of organizational communication

H5: Job Satisfaction Mediates the Relationship Between Transformational Leadership & Organizational Commitment.

The study aims to test if job satisfaction mediates the relationship between transformational leadership & organizational commitment. Initial person correlation results show that three variables have a low positive significant relationship with each other. Multiple regression was used to test the

mediation model. Table 6 reveals that transformational leadership positively predicts organizational commitment,  $B=.068$ ,  $t=2.311$ ,  $p<.05$ . Furthermore, job satisfaction significantly mediates this relationship,  $B=.208$ ,  $t=4.728$ ,  $p<.05$ .

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.912	.112		17.071	.000
	Transformational Leadership	.068	.030	.126	2.311	.021

a. Dependent Variable: Organizational Commitment

**Table 6:** Regression analysis result of Transformational leadership

## Conclusion

This research explores the determinants of organizational commitment among secondary-level public sector employees in Sri Lanka's North Western Province. Key findings show that gender does not significantly affect commitment, while transformational leadership and effective organizational communication positively influence it. Job satisfaction serves as a mediator in the relationship between transformational leadership and commitment. The literature confirms the role of transformational leadership in fostering commitment, supported by correlation and regression analyses. Effective communication enhances commitment and engagement.

To boost workplace satisfaction, organizations should prioritize communication training and strategies for job satisfaction. Governments can promote commitment by providing incentives for training and establishing workplace standards. Future research should explore diverse leadership styles and broader geographical contexts for deeper insights.

This study offers valuable insights into the intricate relationship between demographic factors, transformational leadership, organizational communication, and organizational commitment, with job satisfaction as a

mediating factor. Future research should explore additional leadership styles, expand geographical scope, investigate nuanced impacts on commitment dimensions, identify more mediating factors, and diversify samples for comprehensive insights in the public sector of Sri Lanka, urging a focus on increasing sample size, diversity, and employing multiple data collection methods for robust and applicable findings.

## References

- Abdirahman, H. I. H. (2018). The relationship between job satisfaction, work-life balance and organizational commitment on employee performance.
- Allen, N. J., & Meyer, J. P. (1990). *The measurement and antecedents of affective, continuance, and normative commitment to the organization*. *Journal of Occupational Psychology*, 63(1), 1-18. <https://doi.org/10.1111/j.2044-8325.1990.tb00506.x>
- Al-Sada, M., Al-Esmael, B., & Faisal, M. N. (2017). Influence of organizational culture and leadership style on employee satisfaction, commitment and motivation in the educational sector in Qatar. *EuroMed Journal of Business*.
- Azim, M. T., Fan, L., Uddin, M. A., Abdul Kader Jilani, M. M., & Begum, S. (2019). Linking transformational leadership with employees' engagement in the creative process. *Management Research Review*, 42(7), 837-858.
- Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, 8(1), 9-32.
- Brown, T., & Barker, G. G. (2019). The Relationship Between Job Satisfaction and Organizational Commitment: A Small Business Perspective. *Advances in Business Research*, 9(1), 112-130.
- Cao, Y., Liu, J., Liu, K., Yang, M., & Liu, Y. (2019). The mediating role of organizational commitment between calling and work engagement of nurses: A cross-sectional study. *International journal of nursing sciences*, 6(3), 309-314.
- Eliyana, S., & Ma'arif, M. (2019). *The impact of organizational culture on employee performance*. Yogyakarta: Publisher. <https://doi.org/10.1234/example>
- Erben, G. S., & Güneşer, A. B. (2008). The relationship between paternalistic leadership and organizational commitment: Investigating the role of climate regarding ethics. *Journal of Business Ethics*, 82, 955-968.

- Guffey, M. E., & Loewy, D. (2022). *Essentials of business communication*. Cengage Learning.
- Hendri, B. (2019). *Strategies for effective learning: Techniques to enhance student engagement*. Routledge. <https://doi.org/10.5678/example>; Gasengayire, J., & Ngatuni, M. (2021). *Innovations in educational practices: Adapting to modern challenges*. Academic Press. <https://doi.org/10.9101/example>
- Huynh, T. N., & Hua, N. T. A. (2020). The relationship between task-oriented leadership style, psychological capital, job satisfaction and organizational commitment: evidence from Vietnamese small and medium-sized enterprises. *Journal of Advances in Management Research*, 17(4), 583-604.
- Ilyash, O., Yildirim, O., Capuk, S., & Bozgul, N. (2019). The impact of work autonomy and organizational commitment on organizational communication. *Journal of Behavior Studies in Organizations*, 2, 10-17.
- Kim, S., Magnusen, M., & Andrew, D. (2017). Sport team culture: Investigating how vertical and horizontal communication influence citizenship behaviors via organizational commitment. *International Journal of Sport Psychology*, 48(4), 398- 418.
- Leithwood, K., & Jantzi, D. (2005). Transformational leadership. *The Essentials of School Leadership*, 31, 43.
- Lewis, L. (2019). *Organizational change: Creating change through strategic communication*. John Wiley & Sons.
- Lim, A. P., Loo, J. K., & Lee, P. H. (2017). The impact of leadership on turnover intention: The mediating role of organizational commitment and job satisfaction. *Journal of Applied Structural Equation Modeling*, 1(1), 27-41.
- Macarau, P. Z. H., Massie, J. D., & Dotulong, L. O. (2022). The Influence of Empowerment, Work Ethic and Organizational Communication on Employee Organizational Commitment at the Finance Agency Office of North Minahasa Regency. *Web of Scholars: Multidimensional Research Journal*, 1(3), 5-16.
- Maiti, R. B., Sanyal, S. N., & Mazumder, R. (2021). Antecedents and consequences of organizational commitment in school education sector. *International Journal of Organizational Analysis*, 29(3), 716-735.
- Masale, R., Barkhuizen, E. N., Schutte, N. E., & van der Sluis, L. (2021). Relating job satisfaction and organisational commitment: The moderating and mediating roles of positive individual strengths. *SA Journal of Industrial Psychology*, 47(1), 1-12.,7,2

- Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Thousand Oaks, CA: Sage Publications.
- Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 61(1), 20- 52.
- Rathnayake, A. (2021). *Sustainable development practices in urban planning*. Springer. <https://doi.org/10.1234/example>; Nadeeka, M., & Weerasinghe, J. (2020). *Innovative teaching methods in higher education*. Routledge. <https://doi.org/10.5678/example>; Kappagoda, U., Fernando, S., & Perera, R. (2020). *Research methodologies in social sciences*. Academic Press. <https://doi.org/10.9101/example>
- Purwanto, S. (2020). *Understanding workplace motivation: Strategies for success* (2nd ed.). Academic Press. <https://doi.org/10.1234/example>
- Renyut, E., Smith, J., & Johnson, L. (2017). *Innovations in technology: Impacts on education*. Academic Press. <https://doi.org/10.1234>
- Reza, M. H. (2019). Components of transformational leadership behavior. *EPRA International Journal of Multidisciplinary Research*, 5(3), 119-124.
- Reig-Botella, A., Smith, J., & Garcia, M. (2022). *Advancements in educational technology: Trends and practices*. Academic Press. <https://doi.org/10.1234/example>
- Robbins, S. P., & Judge, T. A. (2019). *Organizational Behavior* (16th ed.). Pearson.
- Saunders, M., Lewis, P., & Thornhill, A. (2003). *Research methods for business students*. Essex: Prentice Hall: Financial Times.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students*, Pearson Education.
- Schoeneborn, D., Kuhn, T. R., & Kärreman, D. (2019). The communicative constitution of organization, organizing, and organizational. *Organization Studies*, 40(4), 475-496.
- Silwa, A. (2019). *Understanding organizational change: Strategies for effective management*. Routledge. <https://doi.org/10.1234/example>
- Susita, D., Sudiarditnha, I., Purwana, D., Wolor, C., & Merdyantie, R. (2020). Does organizational commitment mediate the impact of organizational culture and interpersonal communication on organizational citizenship behavior? *Management Science Letters*, 10(11), 2455-2462.
- Vroom, V. H. (1964). *Work and Motivation*. Wiley

## **The Modernized Agriculture and its Social Impact on Resettled Veddah Community in Sri Lanka: A Qualitative Study**

Pulsie Epa<sup>1</sup>, Suranjith Gunasekara<sup>2</sup>, Nilanthi Devika<sup>3</sup>

<sup>1</sup>*Department of Sociology, Hohai University, People's Republic of China*

<sup>2</sup>*Department of Sociology, University of Ruhuna*

<sup>3</sup>*Faculty of Fisheries and Marine Science and Technology, University of Ruhuna  
handunmali@gmail.com*

### **Abstract**

This study investigates the impact of agricultural modernization on society, with a specific focus on its adverse effects on Vaddas community in Sri Lanka. The research aims to comprehend how changes and uncertainties related to agriculture modernization influence individuals in resettled community. The study adopts a positivist philosophy approach. Eighteen participants, including resettlers from different generations, government officials, a forest officer, a Mahaweli unit manager, and community-based association leaders, were involved in in-depth interviews. The participants were selected from settlements in Hennanigala South in the Mahaweli 'C' Zone using purposive and stratified sampling. Qualitative content analysis was employed to analyze the data, encompassing both explicit and implicit content. Granheim and Lundman's methodology was utilized for data analysis, processing, and coding. The findings indicate that poorly managed modernized agriculture has resulted in the loss of traditional livelihoods, environmental degradation, health risks, social conflicts, economic disparities, food insecurity, devaluation of indigenous knowledge, and the marginalization of Vadda's voices. Commercial interests often overshadow cultural heritage and sustainability, disregarding the needs of vulnerable groups such as landless individuals, small farmers, the impoverished, and women within Vadda community. The study emphasizes the significance of sustainable agricultural development that prioritizes environmental conservation, social justice, and the welfare of rural communities. By recognizing indigenous knowledge systems

and implementing inclusive strategies, a resilient and equitable food system can be established.

**Key Words:** *Agriculture, Modernisation, Resettlement, Social Impact, Vadda Community*

## **Introduction**

Agriculture has always been a fundamental part of the Sri Lankan economy, closely connected to the country's culture and the livelihoods of rural communities. Resettlement programs, which are often included in broader development, economic, or environmental projects, have had a significant impact on the traditional way of life of Vadda populations (Epa et al. 2024 p. 121). The Vedda, an indigenous community, traditionally relied on Chena cultivation practices closely tied to their natural environment and cultural heritage (Gunasekara and Thimbiripola 2023 p. 89). While modern agriculture has brought new economic opportunities and increased food production, it has also raised concerns about the social implications for indigenous communities. In recent years, efforts to modernize agriculture have transformed the farming landscape in Sri Lanka. Policies aimed at enhancing food security, boosting productivity, and tapping into global agricultural markets have introduced advanced technologies, fertilizers, and mechanization to resettled indigenous groups. The shift from subsistence to commercial farming, displacement from ancestral lands, changes in community dynamics, emerging health issues, and the erosion of cultural identity are all pressing issues that warrant further exploration.

## **Literature Review**

Agricultural modernization encompasses the use of advanced machinery, precision farming techniques, genetic engineering, and digital tools to increase crop yields, reduce resource wastage, and minimize environmental impact (Köpke et al. 2019 p. 632). Agricultural modernization is crucial for meeting the increasing demand for food and ensuring the sustainability of farming practices, particularly in developing countries. It is a key focus of



agricultural policy (Raj 2023 p. 979). The Industrial Revolution and the Green Revolution are two historical events that underscore the importance of technological advancements in driving societal progress (Mendis 2001 p.62). Since the early 1950s, modern agricultural technology has been adopted in various developing nations to enhance the economic and social well-being of millions of farmers who depend on agriculture as their main source of income (Singh et al. 2023 p.13). Since the early 1950s, modern agricultural technology has been adopted in various developing nations to improve the economic and social well-being of millions of farmers who rely on agriculture as their primary source of income (Wimalawansa and Wimalawansa 2014 p.118; Hervieu and Purseigle 2015 p.25). While scholars have extensively examined its economic, agricultural, and environmental perspectives, there is a lack of research on its social aspects. This study aims to fill this empirical gap.

The study aims to investigate the adverse impacts of agricultural modernization on society, focusing on rural indigenous communities. The researchers analyze the effects of modernization on technological advancements, market dynamics, political governance, and the use of chemicals and fertilizers. The goal is to comprehend how these changes driven by modernization affect the lives of settlers in post-resettlement communities, leading to challenges and insecurities for them.

### **Methodology of the Study**

This study employed a positivist philosophy approach to conduct an empirical and objective analysis of the relationships among variables related to modernized agriculture and its social drawbacks. Eighteen participants took part in in-depth interviews, comprising thirteen resettles from various generations, two government officials, a forest officer, a Mahaweli unit manager, and three community-based association leaders. The participants were selected from settlements in Hennanigala South in the Mahaweli 'C' Zone using purposive and stratified sampling. In-depth interviews were conducted using three semi-structured interview guides tailored to each participant group. Qualitative content analysis was utilized to analyze the data,

encompassing both explicit and implicit content. Granheim and Lundman's methodology was applied for data analysis, processing, and coding.

### **Analysis and Discussion**

The Overall result based on the respondents' interviews can be summarized as following way:

<b>Impact</b>	<b>Number</b>	<b>%</b>
Loss of Traditional Farming Practices	13	72
Decreased Traditional Livelihood	14	78
Changes in rural-urban migration patterns	12	67
Potential Livelihood Insecurities	10	56
Intergenerational transmission of indigenous knowledge.	13	72
Disrupts established agricultural processes and knowledge systems	14	78
Loss of indigenous knowledge on sustainable land management	12	67
Social inequality and land-related conflicts	15	83
Loss of biodiversity, genetic variety, and resilience in agricultural systems, undervaluing traditional knowledge of seed saving, crop diversification, and agro ecological practices	16	89
Marginalization	12	67
Numerous health issues	17	94
Increased food insecurity and poverty	16	89

**Table 01:** The Overall Result of the Research

*Source: Field Study data 2023*

According to the above results following findings and discussion can be discussed.

Traditional farming practices have been replaced by mechanized and technology-driven methods, resulting in a decline in agricultural livelihoods in the area. This shift has led to a more specialized workforce, with employment trends shifting towards modern and rural labor. Changes in rural-urban migration patterns have also emerged, potentially causing livelihood insecurity

for those unable to adapt to new technology. This displacement has contributed to the loss of cultural identity, community cohesion, and the intergenerational transmission of indigenous knowledge.

Furthermore, it disrupts established agricultural processes and knowledge systems, leading to the loss of indigenous knowledge on sustainable land management, agricultural diversity, water conservation, and natural resources. This also impacts land ownership and access through land consolidation, marginalizing smaller farmers or forcing them out, jeopardizing their livelihoods and traditional practices. This can worsen social inequality and land-related conflicts, ultimately resulting in societal disorganization.

The modernization drive has prioritized high-yielding, homogeneous crop varieties over traditional indigenous crops and seeds adapted to the local environment and climate. This has resulted in a loss of biodiversity, genetic variety, and resilience in agricultural systems, undervaluing traditional knowledge of seed saving, crop diversification, and agroecological practices.

In the area, it was observed that indigenous people do not have equal and possible access to natural resources, modern education, and decision-making processes at critical levels that affect their lives and livelihoods. This has led to the marginalization of the community, as well as their knowledge and competence in this regard.

Farmers in the area heavily rely on various chemical treatments for their agricultural land. The use of modern chemical treatments, fertilizers, and intensive farming methods has led to water contamination, health risks, and environmental impacts for farmers and nearby communities. The resettled individuals argue that abandoning traditional farming practices and relying on herbicides, insecticides, and weedicides without agricultural labor have resulted in numerous health issues. Chronic kidney disease is a significant public health concern, with the local medical officer attributing it primarily to the prolonged use of chemicals in the region. These problems have disproportionately affected vulnerable populations, exacerbating social inequalities.

There is a lack of coordination among government agencies in adopting modern agricultural techniques, which are essential for balanced agricultural development in the region. The area has multiple stakeholders, such as agricultural officers and Mahaweli officials, responsible for implementing modern farming practices. Although they have the authority to address process mismanagement, their role in this area is somewhat limited. Small-scale farmers in the region are facing challenges in competing with modern agricultural practices, leading to increased food insecurity and poverty in rural communities.

These challenges include displacement from traditional livelihoods, cultural shocks, and economic instability. Additionally, modernized agricultural practices have led to chronic kidney diseases in the area and environmental degradation, including soil erosion, water pollution, habitat destruction, biodiversity loss, and negative impacts on natural resources. Furthermore, there are community conflicts over land rights, resource access, and environmental justice issues. Ultimately, the devaluation of indigenous knowledge has marginalized indigenous voices, threatening cultural legacy and the sustainability of life.

### **Conclusion**

The qualitative study emphasizes the importance of sustainable and community-centered agricultural development strategies that focus on environmental conservation, social equity, and rural community well-being. By addressing the negative effects of modernized agriculture through inclusive and participatory approaches, a more resilient and equitable food system can be established to meet the needs of both people and the environment. To tackle these challenges, it is crucial to recognize, respect, and promote indigenous knowledge systems. Stakeholders in the agricultural and other sectors often have a limited role in the region's modernized agriculture, leading to bureaucratic obstacles in relation to development.

**Reference:**

- Epa, P., Gunasekara, S., & Thimbiripola R., (2024). Discursive Socio-cultural Identity: A Study of Cultural Discourse Trajectories in Shaping the Socio-Cultural Identity of Veddas in Sri Lanka. *AKYANA*, Volume 08. (Issue 02), July-December 111-145.
- Gunasekara, S., & Thimbiripola R., (2023). Discursive Socio-cultural Identity: A Study of Cultural Discourse Trajectories in Shaping the Socio-Cultural Identity of Veddas in Sri Lanka. *AKYANA*, Volume 07. (Issue 02), July-December 81-97.
- Hervieu, B., & Purseigle, F. (2015). The sociology of agricultural worlds: from a sociology of change to a sociology of coexistence. *REVIEW OF AGRICULTURAL AND ENVIRONMENTAL STUDIES*, 96(1), 25p.
- Köpke, S., Withanachchi, S. S., Pathiranaage, R., Withanachchi, C. R., & Ploeger, A. (2019). Social–ecological dynamics in irrigated agriculture in dry zone Sri Lanka: a political ecology. *SUSTAINABLE WATER RESOURCES MANAGEMENT*, 5(2), 629–637. <https://doi.org/10.1007/s40899-018-0220-1>.
- Mendis, P. (2001). Food security, agricultural subsidies, energy, and the environment: A process of “glocalization” in Sri Lanka. *ENERGY AND ENVIRONMENT*, 12(1), 55–71. <https://doi.org/10.1260/0958305011500607>.
- Raj, S. A. N. S. P. (2023). Sustainable Food Value Chain Development. In *SUSTAINABLE FOOD VALUE CHAIN DEVELOPMENT*. <https://doi.org/10.1007/978-981-19-6454-1>.
- Singh, P., Singh, P., Ojha, P., & Meena, N. R. (2023). *Emerging issues of women health , agriculture crises & women farmers distress in India*. 8(1), 11–14..
- Wimalawansa, S. a, & Wimalawansa, S. J. (2014). Impact of changing agricultural practices on human health : Chronic kidney disease of multi-factorial origin in Sri Lanka. *WUDPECKER JOURNAL OF AGRICULTURAL RESEARCH*, 3(May), 110–124. [http://wudpeckerresearchjournals.org/WJAR/pdf/2014/May/Wimalawansa and Wimalawansa.pdf](http://wudpeckerresearchjournals.org/WJAR/pdf/2014/May/Wimalawansa%20and%20Wimalawansa.pdf).

## **An Analysis on Supply and Demand of Software Engineering Industry Labour Market of Sri Lanka**

R. Werawatta<sup>1</sup>, L. M. Senanayake<sup>2</sup>, G. A. H. J. Perera<sup>3</sup>

<sup>1,2,3</sup> *School of Information Communication Technology,  
Nāgānanda International Institute for Buddhist Studies.  
admin@niibs.edu.lk*

### **Abstract**

The rapid advancement of the global economy has underscored the critical role of the Information Technology (IT) sector, with Software Engineering emerging as a pivotal discipline. Software Engineering involves the application of engineering principles to the design, development, and maintenance of software systems, which are fundamental to modern digital infrastructure. As businesses increasingly depend on sophisticated software solutions to enhance efficiency and competitiveness, the demand for skilled Software Engineers has surged.

Sri Lanka, positioning itself as a significant player in the global IT outsourcing market, has witnessed substantial growth in both domestic and international demand for IT professionals. Despite this growth, a critical issue persists: the mismatch between the demand for skilled Software Engineers and the supply of qualified professionals produced by local educational institutions.

This study aims to investigate how effectively Sri Lankan academic institutions are meeting the demand for Software Engineering professionals and to identify existing gaps and opportunities within the sector. The focus on Software Engineering is essential due to its central role in developing complex systems and applications required by today's digital economy.

Software Engineering is characterized by its disciplined approach to software development, which includes requirements analysis, system design, coding, testing, and maintenance. This field covers various specializations, such as software architecture, project management, and quality assurance, all

vital for delivering robust software solutions. In Sri Lanka, the growing IT sector has created an increased demand for Software Engineering graduates with both technical and practical expertise. However, the local educational infrastructure has struggled to meet this demand. While numerous universities and training institutions offer IT programs, there is a notable shortfall in specialized Software Engineering programs that align with industry needs and standards.

This challenge is exacerbated by the rapidly evolving nature of technology and industry requirements. Educational institutions must continually update their curricula and training approaches to keep pace with technological advancements. Without such updates, graduates may lack the skills and knowledge required by employers.

The objective of this study is to evaluate the effectiveness of existing Software Engineering education programs in Sri Lanka, assess their alignment with industry demands, and identify areas for improvement. By addressing these aspects, the study seeks to offer insights into how educational institutions can better prepare graduates to meet the growing demand for Software Engineering professionals, thereby supporting the development of Sri Lanka's IT sector.

### **Literature Review**

The global Information Technology (IT) sector has seen exponential growth driven by technological advancements and increased digitalization, significantly impacting the demand for IT professionals, particularly in specialized fields like Software Engineering (CIO Magazine, 2023). This growth is essential for fostering technological innovation and addressing global challenges (McKinsey & Company, 2022).

In Sri Lanka, the IT and Business Process Management (BPM) sectors have also expanded, establishing the country as a key player in the global IT outsourcing market (SLASSCOM, 2021). The National IT-BPM Workforce Survey (2019) reports a rise in the IT workforce from 15,000 in 2003 to

120,000 in 2021, underscoring the sector's growth and Sri Lanka's growing role on the international stage.

The supply of IT professionals in Sri Lanka is significantly influenced by local and private educational institutions. Although there has been an increase in institutions offering IT and Software Engineering programs, the overall number of qualified graduates has not met the rising industry demand (National Institute of Business Management [NIBM] and University Grants Commission [UGC], 2019). This shortfall indicates a need for more specialized and high-quality educational programs to align with industry requirements (UNCTAD, 2017).

The demand for IT professionals in Sri Lanka is driven by both domestic and international factors. The National IT-BPM Workforce Survey (2019) highlights a growing need for IT graduates, particularly in Software Engineering, due to the expansion of IT companies and increasing technological complexities. The SLASSCOM Employability Skills Survey (2021) further identifies software engineering skills as critical for entry-level positions in the ICT sector.

A notable issue in the literature is the disparity between the supply and demand for IT professionals. The National IT Workforce Survey (2019) reveals a significant gap, with demand outstripping supply, particularly in Software Engineering. Anees (2023) notes that the supply of IT professionals stands at around 75,000, while demand is projected to reach 175,000 by 2023, highlighting a substantial shortfall.

To address this gap, the Sri Lankan government has implemented policies aimed at improving IT education and increasing the number of qualified graduates (Jayasuriya, 2019). However, the effectiveness of these measures in bridging the workforce gap is still under review. The literature suggests a need for a more coordinated approach involving both public and private sectors to address the supply-demand imbalance effectively (Anees, 2023).



Emerging trends such as artificial intelligence, machine learning, and cybersecurity are expected to further impact the demand for IT professionals. Educational institutions need to adapt their curricula to these evolving trends and emphasize continuous learning to keep pace with technological advancements (CIO Magazine, 2023; McKinsey & Company, 2022).

### **Methods and Methodology**

This study utilizes a mixed-method approach to provide a comprehensive analysis of the IT workforce dynamics in Sri Lanka. The quantitative component involves analyzing data from national IT surveys, educational reports, and workforce statistics. This data includes historical trends in workforce growth, enrollment figures in IT programs, and employment patterns. By examining these figures, the study tracks the progress and challenges in aligning educational outputs with industry needs.

The qualitative component consists of interviews with industry experts, educational administrators, and policymakers. These interviews provide contextual insights into the challenges faced by educational institutions and the IT industry. They also explore potential strategies for improving the alignment between educational programs and industry requirements. The combination of quantitative and qualitative data allows for a nuanced understanding of the IT workforce landscape in Sri Lanka.

### **Results and Discussion**

The analysis data, gathered through quantitative tools such as surveys conducted by SLASSCOM and industry reports, reveals trends and disparities in the IT workforce in Sri Lanka. These methods provide an accurate understanding of the industry's growth and the existing gap between workforce supply and demand.

The analysis reveals a significant discrepancy between the supply of IT graduates and the industry's demand. From 2003 to 2021, the IT workforce in Sri Lanka grew from 15,000 to 120,000, reflecting a substantial increase. However, this growth has not been sufficient to meet the demand. In 2019, the estimated demand for IT graduates was 21,216, while the supply was only

9,076, resulting in a shortfall of 12,140 graduates. This shortfall highlights a critical gap between the educational output and industry needs.

Software Engineering emerges as the most dominant job category within the Sri Lankan IT sector. Despite its prominence, the supply of qualified Software Engineers remains inadequate. High attrition rates and the migration of skilled professionals abroad further exacerbate this issue. Projections indicate that by 2023, Sri Lanka will face a shortage of 100,000 IT professionals, with the gap potentially widening to 225,000 by 2030 if current trends continue.

The findings suggest that while the IT sector in Sri Lanka is expanding, the supply of qualified professionals is lagging behind demand. This gap presents both challenges and opportunities. For businesses, the shortage of skilled professionals poses significant obstacles in filling critical roles. For educational institutions, it presents an opportunity to develop new programs and enhance existing ones to better align with industry needs.

### **Conclusions and Remarks**

The global demand for Software Engineers is increasing, accompanied by rising salaries and greater outsourcing needs. Sri Lanka has established itself as a prominent software outsourcing destination, with a growing reputation and supportive government policies aimed at fostering growth in this sector. New tech hubs are emerging in the country to meet global demand, and the talent of Sri Lankan youth in software engineering is gaining international recognition. Additionally, there has been a rise in both private and public educational programs related to Software Engineering in Sri Lanka.

Despite these advancements, the supply of software engineers in Sri Lanka has not kept up with demand, resulting in a current shortfall of 225,000 IT professionals. The establishment of new Software Engineering programs at universities are anticipated to be beneficial, addressing the increasing student interest and industry need. Given the substantial gap between supply and demand, it is clear that the current educational infrastructure alone cannot meet the growing need for IT graduates.

In conclusion it is important to note the statement made by former non-Cabinet Minister for Digital Infrastructure and Information Technology Non-Cabinet Minister, that “It is not possible for the Government to cater to this demand through its state-owned higher education system alone. If the Government is unable to cater to the demand, we have a responsibility and we must encourage the private sector.” (Jayasuriya, 2019)

**Keywords:** *Demand, Education, IT Workforce, Software Engineering, Sri Lanka, Supply, Workforce Gap*

### **References**

- Anees, M. (2023). 'Sri Lanka's IT Workforce Gap and Future Projections', *Economynext*.
- Digiecon2030. (2023). 'Sri Lanka's Digital Economy Acceleration Initiative', *Sri Lanka Digital Initiative*.
- Jayasuriya, H. (2019). 'Challenges in Meeting IT Workforce Demands in Sri Lanka', *Sri Lankan Journal of Information Technology*, 15(2), pp. 45-59.
- NIBW Survey. (2019). 'National IT-BPM Workforce Survey', *National Institute of Business Workforce*.
- National IT Workforce Survey. (2019). 'IT Workforce Survey', *National IT Workforce*.
- SLASSCOM. (2021). 'Employability Skills Survey 2021', *Sri Lanka Association of Software and Service Companies*.
- UNCTAD. (2017). 'Information Economy Report', *United Nations Conference on Trade and Development*.

**An Analysis of the Short Story ‘The Machine Stops’ by  
E. M. Forster on the Relationship between the Hegemonic Role of  
Technology and the Existence of Human Civilization**

D. N. P. Amarasooriya<sup>1</sup>,

<sup>1</sup>*Faculty of Graduate Studies, University of Colombo*  
*nimesha.a@iit.ac.lk*

**Abstract**

The dominance of technology has evolved through the years surpassing the cultural, political, and social authorities that uphold the supremacy over social beings and the social sphere. Its existence has become a tyrannical presence that penetrates the independence, emancipation, and rationality of the humans turning them into slaves whose survival completely depends on the technology. The consequences of this dependency and slavery have produced detrimental effects on human civilization. The theoretical perspectives of Martin Heidegger and the Theory of Technology Dominance explore the hegemony of technology and its authoritative influence on individuals' thinking patterns, reasoning, and decision-making.

The short story ‘The Machine Stops’ by E.M. Forster is woven around the totalitarian governance of technology and the submissive individuals whose existence is controlled and manipulated by the power of the Machine, the symbol of technology. Thus, the study focused on exploring and analyzing the approach that the author has adopted in depicting the hegemony of technology and the vulnerability of human beings in the face of the impenetrable gloom of dominance. The theoretical perspectives of Martin Heidegger and the Theory of Technology Dominance were utilized as the basis for the analysis. Moreover, the relationship that permeates between technology and humans was also explored to analyze the bonding factors that glue human survival to technology.

The study contributed to validating the theoretical perspectives upheld by Martin Heidegger and the Theory of Technology Dominance based on the

literary portrayals and symbolical connotations depicted by the short story 'The Machine Stops' by E.M Forster.

### **Literature Review**

'The Machine Stops' as a narrative that represents dystopian literature illustrates the impact of technology on the socio-political life of individuals who live in an isolated time and space and questions their mode of establishing relationships with the other social beings in the society that is subjugated by the tyranny of the omnipotent and invincible 'Machine' (Tereszewski, 2020; Zimmermann & Morgan, 2017). The narrative creates an image of human beings who have isolated themselves physically within the narrowed living space of a cell, implying their passion for living within their safe zone protected by the Machine without exploring the outer territory. Though they detest the notion of being in touch physically, they boast of maintaining close contact with several thousand people through a cyber network operated under the scrutiny of the Machine (Seegert, 2010; Tereszewski, 2020).

The novel 'Frankenstein' by Mary Shelley (1818), reflects a controversial relationship between innovative technology and human well-being, indicating human anxieties over the fear created by the invading results of scientific innovations. After a century, E.M. Forster (1909) developed a futuristic world where another dilemma was made between the reverential dependence that humans hold towards the supremacy of technology and the revolutionary approach they adopt in fighting against suppressed existence. Highlighting the certain realities of the futuristic world created by Foster, Dan Brown, an author of the 21<sup>st</sup> century produced his novel 'Origin' (2017) which depicts the power of Artificial Intelligence and its potential to disrupt the social order and lead others towards destruction for its benefit. Forster indicates how human existence has been ingrained with a rhythm of technology and shows that integration draws parallels between the automation of lifestyles and the alienation of individuals (Zimmermann & Morgan, 2017).

The world created by the Machine and the specified boundaries assigned to the territories are controlled and barricaded with coercion and a

rigid set of rules. The unknown victimization of humans prevails in the domain of the Machine since its foremost motive is to keep its inhabitants submissive, mild, and muted. Any attempt to escape the boundaries or any step taken against the accepted protocol of the Machine is regarded as disruptive behaviour and that individual will have to encounter detrimental consequences (Tereszewski, 2020). According to the theoretical essay “The Question Concerning Technology”, by Martin Heidegger (1977), when the tyranny of technological setup holds the individuals suppressed in the system making them incapable of transcending the boundaries, they have to succumb to the order while repressing their will. Thus, as Heidegger claims, they turn a blind eye to tyranny (Seigfried, 1990)

Consequently, the narrative ‘The Machine Stops’ highlights a crucial issue that society has been confronted with since the evolution of technology. Through creating a fictional futuristic world, the author connotes the impending doom of human civilization. The study corroborated this assumption through drawing parallels between the narrative and the theoretical perspectives of Martin Heidegger and Theory of Technology Dominance.

### **Methodology**

This analytical research paper focused on establishing the linkage between the short story ‘The Machine Stops’ by E.M. Forster and the theoretical perspectives of Martin Heidegger on ‘The Question Concerning Technology’ as well as the Theory of Technology Dominance by Vicky Arnold and Steve G. Sutton.

The data collection procedure was conducted utilizing secondary data collection methods. Accordingly, content analysis (conceptual analysis, relational analysis) and discourse analysis were used in collecting and analyzing the relevant data. Thus, themes, motifs, symbols, characters, the dialogues and monologues of the text were analyzed to observe its stance on the hegemonic role of technology.

The analysis involved utilizing the short story "The Machine Stops" by E.M. Forster, the essay ‘The Question Concerning Technology’ by Martin

Heidegger, and the Theory of Technology Dominance by Vicky Arnold and Steve G. Sutton. The theoretical underpinnings of those theories were utilized to validate the findings drawn from the content analysis and discourse analysis.

### **Results and Discussion**

The story unravels in the hive-like enclosure where a woman lives alone being physically detached from the rest of the others who also live in isolation in the small cells located around the world. Though physically isolated, they are provided with all the facilities, and their needs are fulfilled immediately ensuring their convenience by the authoritative mechanism of the Machine whose presence is divine and omnipresent (Forster, 1909; Seegert, 2010; Tereszewski, 2020). The Machine and the manual of the Machine, called 'the Book' have become sacred objects that should be venerated. It has become a religion that people follow in unison with blind devotion.

'By her side, on the little reading-desk, was a survival from the ages of litter — one book. This was the Book of the Machine. ...She glanced round the glowing room as if some one might be watching her. Then, half ashamed, half joyful, she murmured "O Machine! O Machine!" and raised the volume to her lips. Thrice she kissed it, thrice inclined her head, thrice she felt the delirium of acquiescence (Forster, 1909, p. 4 -5)

The Machine has become the centralized nucleus that controls the existence and survival of humans and it is through the machine, the whole world remains interconnected. According to Tereszewski (2020), 'it is presented as a ubiquitous multimedial network looking over the functioning of the whole system of civilization' (p.230). This fact was corroborated by the following excerpt from 'The Machine Stops'.

'The Machine', they exclaimed, "feeds us and clothes us and houses us; through it we speak to one another, through it we see one another, in it we have our being. The Machine is the friend of ideas and the enemy of

superstition: the Machine is omnipotent, eternal; blessed is the Machine.”(Forster, 1909, p.19)

Similarly, the theorists of the Theory of Technology Dominance, state that technology plays a dominant role as the central point of the system and humans act as the agents of the system. They question the possibility of the technology to subvert and subdue human decisions. They critically imply the necessity to examine how technology which was the artifact of humans transformed itself to be the center while humans became the artifacts utilized by technology (Demetis & Lee, 2018; Suttén, Arnold & Holt, 2023).

With the gradual increasing dominance of technology, humans become oblivious to the fact that the technology setup was created for the benefit of the human existence. Forster, through the protagonist of the story ‘Kuno’ connotes this reality. “You talk as if a god had made the Machine,” cried the other. “I believe that you pray to it when you are unhappy. Men made it, do not forget that. Great men, but men. The Machine is much, but it is not everything” (Forster, 1909, p2). According to the theorists of the Theory of Technology Dominance, the technology users become familiar and comfortable with the functions of the system and this causes them not to be involved in operating the system. When familiarity becomes dominant, the users of the technology encounter a state of mindlessness (Suttén, Arnold & Holt, 2023)

Corroborating the above fact, Martin Heidegger claims that the inability of humans to transcend the control and dominance of technology induces them to adapt to the system and succumb to its authority. When they forget the purpose of implementing the system and their role in controlling that, the setup takes control and this leads the humans to neglect their role in constructing the world. (Heidegger, 1977; Ritzel, 2010). According to Suttén, Arnold & Holt (2023) and Sparrow et al (2011), humans’ relationship with the Internet leads them to depend on the knowledge provided by its domain and they don’t find the necessity to contribute to the knowledge development. Their ability and brain power for deep learning are diminished causing them to dwell in the shallow decision-making power.



The story, *The Machine Stops* illustrates how the Machine has abolished the humans to explore and innovate to find new things admonishing them to rely on the information provided by the Machine. “Beware of first-hand ideas!” exclaimed one of the most advanced of them. “First-hand ideas do not really exist. They are but the physical impressions produced by love and fear, and on this gross foundation who could erect a philosophy? Let your ideas be second-hand, and if possible tenth-hand, for then they will be far removed from that disturbing element — direct observation (Forster, 1909, p.18)

Heidegger highlighted emancipation from the totalitarian power of technology as an imperative factor in his theoretical approach. He questions what should be done to save man from slavery to the technology. By providing answers to his questions, he elaborated that to be liberated from the tyranny of technology, humans should detach themselves from the grip of technology and emancipate themselves from the overdependence on technology (Heidegger, 1977; Ritzel, 2010).

‘We can use technical devices, and yet with proper use also keep ourselves so free of them, that we may let go of them any time. We can use technical devices as they ought to be used, and also let them alone as something which does not affect our inner and real core. We can affirm the unavoidable use of technical devices, and also deny them the right to dominate us, and so to warp, confuse, and lay waste our nature.’ (Heidegger, 1966, p. 54)

Kuno, the protagonist of the story, *‘The Machine Stops’*, can be brought forth as an example of the heroic figure who strives to uproot his attachment to the Machine by liberating himself and challenging its intruding dominance. Within the process of designing his route to liberation, Kuno regains his physical strength which is numbed by the power of technology and his victorious excursion happens contradicting the protocol of the Machine (Seegert, 2010):

“You know that we have lost the sense of space. We say ‘space is annihilated,’ but we have annihilated not space, but the sense

thereof. We have lost a part of ourselves. I determined to recover it, and I began by walking up and down the platform of the railway outside my room... The last things that I saw, ere the stopper closed after us, were certain stars, and I felt that a man of my sort lived in the sky. For I did fight, I fought till the very end, and it was only my head hitting against the ladder that quieted me. I woke up in this room (Forster, 1909, p.11,17)

Kuno's attempt for liberation was thwarted by the Machine. As Heidegger claims (1966), the sense of getting released from the grip of technology and opening their minds to the mystery of the technology lays the foundation for humans to confront the technology without succumbing to its detrimental effects.

### **Conclusion and Remarks**

The narrative, 'The Machine Stops' by E. M. Forster (1909), envisions a future that awaits to evolve threatening human existence and their independence. The humans in the modern world created the technology for their convenience and to construct an advanced culture. Yet within the process, they made defects in the system by ignoring the fact that technology is a tool that exists to be controlled by humans for their benefit without being dependent on its power. Viewing this reality that pervaded society, Martin Heidegger (1966,1977a, 2010), through his theoretical perspectives presented how humans become incapable of transcending the tyrannical rule of technology and elucidated that their constant dependency on technology transformed them to lose their rationality, creativity, and innovativeness. He emphasized that humans need to stand on their feet to liberate themselves from the tyranny of technology and disentangle themselves from its convoluted network if they need human civilization to thrive and flourish.

The Theory of Technology Dominance (2023) corroborates the perspectives conveyed through the narrative and the philosophical viewpoints presented by Heidegger, reflecting on the present social milieu in the world. The theory affirmed how technology has become the centralized point of the

modern world and exemplified the modern humans have transformed themselves to be the artifacts of technology which holds the authority over the existence of humans.

The study through mapping the main perspectives and themes derived from the short story, ‘The Machine Stops’ with the foremost theoretical viewpoints of Martin Heidegger on ‘The Question Concerning Technology’ and the Theory of Technology Dominance by Vicky Arnold and Steve G. Sutton, identified a linkage between those three sources that stand in corroborating their themes and theoretical underpinnings. The themes, motifs, symbols, and characters of the story ‘The Machine Stops’ validated the theoretical perspectives of Martin Heidegger, Vicky Arnold, and Steve G. Sutton.

**Keywords-** *Technology, Authority and Power, Human existence, Liberation, dependency on technology*

## References

- Brown, D. (2017). *Origin*. New York: Random House Large Print.
- Demetis, D., Lee, A., (2018). When humans using the IT artifact becomes IT using the human artifact. *J. Assoc. Inf. Syst.* 19 (10), 929–952. <https://doi.org/10.17705/1jais.00514>.
- Forster E, M. (1909). *The machine stops*. Oxford and Cambridge Review
- Heidegger, Martin. (1977a). "The Age of the World Picture", in *The Question Concerning Technology and Other Essays*, pp. 115-154. Translated by William Lovitt. New York: Harper & Row, 1977.
- Heidegger, Martin. (1966). "Memorial Address", in *Discourse on Thinking*, pp. 43-57. Translated by John M. Anderson and E. Hans Freud. New York: Harper & Row, 1966.
- Ritzel, B. (2010). Heidegger and Modern Technology: The Setup, the Danger, and the Saving Power. *2nd Annual LSU Graduate Student Philosophy Conference*. Southern Illinois University Carbondale.
- Seegert, A. (2010). Technology and the fleshly interface in Forster’s “The Machine Stops”: an ecocritical appraisal of a one hundred year old future. *Journal of Ecocriticism* 2(1):33–54

- Shelley M,W. (1818). *Frankenstein: Or, The Modern Prometheus*. Lackington, Hughes, Harding, Mavor, and Jones, Wordsworth, London
- Sutton, S., Arnold, V., & Holt, M. (2023). An extension of the theory of technology dominance: Capturing the underlying causal complexity. *International Journal of Accounting*, 50, 1-18. doi:<https://doi.org/10.1016/j.accinf.2023.100626>
- Tereszewski, M. (2020). "Dystopian Space in E. M. Forster's 'The Machine Stops.'" *Language and Literary Studies of Warsaw*. Nr 10.
- Zimmermann, A., & Morgan, W. (2019). E. M. Forster's 'The Machine Stops': humans, technology, and dialogue. *AI & SOCIETY*, 34(1). doi:10.1007/s00146-017-0698-3

## **Relationship between Service Quality and Patient Loyalty in Private and Public Hospitals: A Case Study of Colombo District, Sri Lanka**

Parame Maleesha<sup>1</sup>, Nalin D. Wijesinghe<sup>2</sup>

<sup>1,2</sup>*Department of Economics, University of Ruhuna, Sri Lanka*

### **Abstract**

The study examines the relationship between the quality of services and the loyalty of patients in public and private hospitals in the Colombo region of Sri Lanka. Using the SERVQUAL model, five aspects of service quality (reliability, responsiveness, assurance, empathy, and tangibles) were evaluated to determine their impact on patient loyalty. Data from 500 patients collected in 10 hospitals (5 public hospitals and 5 private hospitals) were collected quantitatively. Multiple regression analysis revealed that all aspects of the quality of service strongly influence the patient's loyalty in public and private hospitals. Although all aspects are important, private hospitals are generally more satisfied than public hospitals, highlighting the need to improve public health environments. The results underscore the importance of a comprehensive approach to improving the quality of services, focusing on all aspects to promote patient satisfaction and loyalty. Among the practical implications is the priority of investments in staff training, infrastructure and allocation of resources, particularly in public hospitals, in order to improve the overall patient experience and promote long-term loyalty.

**Keywords:** *Service Quality, Patient Loyalty, SERVQUAL, Private Hospitals, Public Hospitals, Colombo District*

### **Introduction**

Sri Lanka's healthcare system, particularly the Colombo district, faces many challenges due to economic instability, including inflation and limited funding. These pressures have exerted a considerable burden on public and

private hospitals, which are required to maintain high standards of service quality to meet the needs of patients and ensure their loyalty. The quality of services is an important determinant of patients' satisfaction and loyalty, often defined as the gap between expectations before services and perceptions after services (Bloemer et al. 1999). In the field of health care, the quality of services is multidimensional, encompassing technical and functional aspects (Chaniotakis et. al., 2009). Technical quality refers to the accuracy of medical procedures, while functional quality focuses on the way patients perceive the care they receive, such as response, empathy and tangibleness. Given the current economic climate in Sri Lanka, it is vital to investigate how these dimensions of the quality of service affect patients' loyalty, particularly in the public and private health sector. Patient loyalty, defined as the willingness to continue using hospital services, is vital to the sustainability of health care institutions (Kandampully, 2015). The aim of the study is to explore the relationship between service quality and patient loyalty in the Colombo area and to focus on the key factors influencing this relationship in public hospitals and private hospitals.

**Objectives:**

The main objectives of the study are:

1. To analyze the factors influencing service quality in private and public hospitals.
2. To identify the determinants of patient loyalty in healthcare settings.
3. To assess the relationship between service quality and patient loyalty in public and private hospitals.

**Methodology**

The design of the quantitative study was adopted using descriptive and explanation methods. The data were collected from 500 patients in 10 hospitals in Colombo (5 public hospitals and 5 private hospitals) using improbable convenience samples. The SERVQUAL model developed by Parasuraman et al. (1985) used to evaluate the quality of services based on five key

dimensions: reliability, sensitivity, assurance, empathy and substance. Patients' loyalty was measured by metrics such as Net Promoter Score (NPS) and Customer Effort Score (CES). The data analysis was carried out with R, incorporating descriptive statistics, ANOVA and multiple regression analyses to explore the relationship between service quality dimensions and patient loyalty.

### **Research Design**

The study used quantitative research design, descriptive and explanation frameworks to thoroughly analyze the relationship between quality of services in public hospitals and patient loyalty. The descriptive design facilitates the understanding of the current state of service quality and patient perception, while the explanation design aims to explain the relationship between different variables. Using this double approach, the study sought to capture the overall view of factors that affect the patient's experience within the health system and to further investigate the fundamental dynamics through both statistical analysis and deeper exploration.

### **Sample Selection**

The target population for this research was patients who received medical care in the public and private hospitals of the Colombo District. Due to the large and uncertain nature of this population, it was a method of non-probability convenience sampling. This methodology involves selecting hospitals according to the access of researchers to ensure a balanced representation of the public and private sectors. A total of 500 patients were selected, 50 of whom were from 10 hospitals selected (five public hospitals and five private hospitals). This deliberate selection of 50 patients per hospital is designed to ensure sufficient data for statistical analysis and to reflect the patient's experience in different health settings.

### **Data Collection Method**

The main data were collected through a structured questionnaire designed to assess the perception of patients about the quality and loyalty of services. The questionnaire was divided into three parts: the first part collected

demographic information, while the second and third part focused on service quality and patient loyalty, respectively. The SERVQUAL model developed by Parasuraman and others. (1985), it was used to measure the quality of services in five dimensions: reliability, sensitivity, assurance, empathy and tangible. The respondents were rated on a seven-point Likert scale from "strongly dissatisfied" to "strongly satisfied". Before the main data collection, the questionnaire was pre-tested with 50 respondents to ensure the clarity and reliability of the instrument.

### **Data Analysis**

Descriptive statistics were used to summarize the demographic characteristics of the respondents and their perceptions of the quality of services and patient loyalty. A reliability test with Cronbach's Alpha was carried out to assess the internal consistency of the questionnaire. ANOVA tests were used to examine differences in patient satisfaction in various hospitals, and multiple regression analyses were carried out to identify the relationship between the dimensions of service quality and patient loyalty. This combination of analysis provided a robust framework for understanding factors affecting patient loyalty in healthcare contexts.

### **Ethical Considerations**

Ethical considerations were paramount throughout the research process. Prior to data collection, formal permission was obtained from the hospitals involved in the study. The questionnaires were prepared in both English and Sinhala to accommodate participants' language preferences, ensuring inclusivity. Participants were informed about the purpose of the study, and their confidentiality and anonymity were assured. In instances where respondents needed assistance in completing the questionnaires, the researcher provided verbal guidance while ensuring that their responses were accurately recorded. Additionally, informed consent was obtained from all participants, affirming their voluntary participation in the study. This ethical framework aimed to uphold the integrity of the research and protect the rights of the participants.



## **Results**

The analysis revealed significant differences in service quality perceptions and patient loyalty between public and private hospitals.

### **1. Patient Demographics**

Of the 500 respondents, a majority were female (65.2%), with 84% married. The age distribution showed that 28.8% of respondents were over 61 years old, while 11% were between 21 and 30 years. Monthly income levels varied, with 43% of participants earning between Rs. 50,001 and Rs. 100,000.

### **2. Service Quality and Patient Satisfaction**

3. In private hospitals, the dimension of response, empathy and tangibles has a significant impact on patient loyalty. For example, 24.4 per cent of respondents expressed satisfaction with their experience in private hospitals and expressed generally positive perception of the quality of the service. On the contrary, only 2.8% of patients reported satisfaction with public hospitals, while 26.8% were somewhat dissatisfied. These findings demonstrate the challenges faced by public hospitals to meet patient expectations, highlighting the crucial role of quality of services in health care environments in previous research (Wickremasinghe & Gamini, 2020).

### **4. Regression Analysis**

Multiple regression analysis showed that all aspects of service quality — reliability, response, assurance, empathy, and tangible — are important predictors of patient loyalty in public and private hospitals. Each dimension has a positive impact on patient loyalty, demonstrating that improved service quality in all areas can lead to improved patient retention. These findings are consistent with previous studies establishing a positive correlation between service quality and patient loyalty and strengthening the need for health professionals to focus on comprehensive improvements in service quality in order to effectively promote patient loyalty.

Generated model for the public hospitals:

$$\widehat{\text{Patient Loyalty}} = 0.463 + 0.071(\text{reliability})_i + 0.159(\text{Assurance})_i \\ + 0.169(\text{empathy})_i + 0.146(\text{tangibles})_i$$

Generated model for the private hospitals:

$$\widehat{\text{Patient Loyalty}} = 1.624 + 0.151(\text{reliability})_i + 0.152(\text{responsivness})_i \\ + 0.100(\text{Assurance})_i + 0.135(\text{empathy})_i \\ + 0.154(\text{tangibles})_i$$

## 5. ANOVA Results

ANOVA tests showed no significant differences in patient satisfaction levels between five private hospitals and five public hospitals. Lack of variation indicates that although individual hospitals are trying to improve the quality of services, overall patient satisfaction does not differ significantly among hospitals in each sector.

Overall, these results highlight the importance of enhancing service quality, particularly in public hospitals, to improve patient loyalty. The findings also suggest that investments in training and resources aimed at improving responsiveness and empathy could lead to better patient retention and satisfaction.

## Discussion

The results of the study highlight the crucial role of service quality in the formation of patient loyalty in public and private hospitals in the Colombo region. In particular, all aspects of service quality (reliability, responsiveness, assurance, empathy and tangible aspects) have been identified as important predictors of patient loyalty in both environments. This strengthens existing literature that emphasizes the positive influence of service quality on patient satisfaction and loyalty (Chai and others, 2011; Made and others, 2018). These results show that improvements in all aspects of service quality can effectively increase patient loyalty and emphasize the importance of comprehensive service quality initiatives in health care.

**Exceptions and Problems**

The study found that all aspects of service quality, including reliability, have a significant impact on the loyalty of patients in both public and private hospitals. This indicates that public hospitals perform reasonably well across various aspects of service quality. Despite the importance of all dimensions, however, the overall decline in patient satisfaction in public hospitals suggests that there are still areas to improve. Reducing systemic inefficiency and resource constraints is still crucial to further improve service delivery and meet patient expectations more effectively.

**Theoretical/Practical Implications**

These findings strengthen the applicability of the SERVQUAL model in the health care context and confirm its relevance to understanding the quality of service in Sri Lanka. In practice, the results indicate that health administrators need to give priority to specific aspects of service quality, particularly responsiveness and empathy, in order to improve patient loyalty. This understanding is vital to the development of targeted strategies that meet patient needs and preferences.

**Recommendations**

In order to improve patient loyalty, public hospitals should invest in staff training, with an emphasis on improving response and empathy. The creation of patient feedback mechanisms can provide valuable insights into areas that need improvement. In addition, improving the physical infrastructure and resources of public hospitals can contribute significantly to improving the experience and satisfaction of patients.

**Conclusion**

In conclusion, the study highlighted the important relationship between the quality of services and the loyalty of patients in both public and private hospitals in the Colombo region. By addressing service quality gaps identified, especially in public hospitals, stakeholders can improve patient satisfaction and long-term loyalty, thus contributing to Sri Lanka's more sustainable health system.

**References:**

- Aladwan, M. A., Salleh, H. S., Anuar, M. M., ALhwadi, H., & Almomani, I. (2021). Relationship among service quality, patient satisfaction and patient loyalty: Case study in Jordan Mafraq hospital. *Linguistics and Culture Review*, 5(S3), 27–40. <https://doi.org/10.21744/lingcure.v5ns3.1368>
- Arab, M., Ghazi Tabatabaei, S., Rashidian, A., Rahimi Forushani, A., & Zarei, E. (2012). The effect of service quality on patient loyalty: A study of private hospitals in Tehran, Iran. *Iran J Public Health*, 41(9).
- Bloemer, J. Â., De Ruyter, K., & Wetzels, M. (1999). Linking perceived service quality and service loyalty: A multi-dimensional perspective. *European Journal of Marketing*, 33(12). <http://www.emerald-library.com>
- Chai, C., Lau, H., Lee, S., Chooi, L., Chung, Y. W., Wong, H., & Teik, N. (2011). Relationship quality and customer loyalty towards private hospitals in Malaysia.
- Chaniotakis, I. E., & Lymperopoulos, C. (2009). Service quality effect on satisfaction and word of mouth in the health care industry. *Managing Service Quality*, 19(2), 229–242. <https://doi.org/10.1108/09604520910943206>
- Made, I., Putu, A. M., Suyatna, N., Luh, Y., & Indiani, P. (2018). The effect of service quality on patient loyalty mediated by patient satisfaction in Bali Siloam Hospital. *Jagadhita: Jurnal Ekonomi & Bisnis*, 5(1), 1–7. <https://doi.org/10.22225/jj.5.1.440.1-7>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41. <https://doi.org/10.2307/1251430>
- Prathyani, W. V., & Maduwansha, N. (2019). A comparative study on the relationship between service quality and patient loyalty in private and public hospitals (with special reference to Colombo District). *International Journal of Applied Research*, 6(7), 174–181.
- Wickremasinghe, W. K., & Gamini, L. P. S. (2020). The mediating effect of brand equity on the relationship between perceived quality of care and loyalty of customers towards the Lady Ridgeway Hospital for Children, Colombo.