
Factors Influencing the Gender Imbalance of the Logistics Sector in Sri Lanka

Wanigasooriya, U.D.^{*a}, Perera.L.L.S.^b, Madhubashani, M.P.^c & Rajapaksha, V. N.^d, Jayasuriya, N.^e, Jayasinghe, M.^f, Bandara, G.^g

^{a,b,c,d,e,f,g}Department of Business Management, Faculty of Business, Sri Lanka Institute of Information Technology, Malabe, Sri Lanka

^adwanigasooriya2@gmail.com, ^blavanyasanjana26@gmail.com, ^cpiyumikagunaratna@gmail.com, ^drajapakshavidushao@gmail.com, ^enisha.j@slit.lk, ^fmadara.j@slit.lk, ^ggayan.b@slit.lk

Abstract

This study aims to identify the factors influencing the gender imbalance in Sri Lanka's logistics sector. We examine the professional development of those working for Sri Lankan logistics companies. In this study, a combination of descriptive and explanatory studies was used to identify the relationship between the variables. A quantitative research design was used to examine the impact of the independent variables (gender pay gap, family factors, cultural norms, and educational background) on the dependent variable (gender imbalance). The primary source of data for this study was surveys that used the Likert scale rating and had lists of closed-ended questions about the factors impacting the gender disparity in Sri Lanka's logistics industry. These data were collected from the logistics companies located in Sri Lanka. A questionnaire link was distributed among individual employees through email and by visiting the companies. The respondents were the employees of 82 companies in the logistics industry in Sri Lanka. They were selected in proportion to the number of employees in each company. Overall, this study demonstrates how difficult it is for women to grow in their professions in supply chain management at the same pace that men do.

Keywords: Career path, gender, salary, supply chain, women

01. Introduction

Gender imbalance is a widespread issue in many industries, including the logistics industry. Despite substantial advancement in recent years, Sri Lanka still lacks gender diversity in the logistics industry. Given that men continue to dominate the logistics sector, women are still underrepresented in such positions (Winkler, 2022).

The purpose of this study is to investigate the causes of the gender imbalance in the Sri Lankan logistics sector and provide viable solutions. The absence of female role models, the gender wage gap, societal and cultural standards, educational background, and the lack of female role

**dwanigasooriya2@gmail.com*

models are some of the causes of the gender imbalance in the logistics business. These factors lead to women avoiding choosing logistics career paths and pose a number of difficulties at work. The population of Sri Lanka is 21.8 million. According to the Labor force survey conducted by the Department of Census and Statistics of Sri Lanka, the economically active population is 33 million. 66.3% of them are male and 33.7% are female. Generally considered, the logistics and warehousing industry is dominated by men, with less than 25% of the employed women working in this industry (Robertson et al., 2020)

Based on the knowledge of Sri Lankan logistics experts, this study adopts a quantitative methodology and a Likert scale questionnaire. To gain a thorough knowledge of the problem, the researchers investigate data from secondary sources, such as academic literature, industry reports, and policy papers. The findings of this study offer major implications for Sri Lanka's logistics sector since they will shed light on the causes of gender imbalance and provide viable solutions. The motivation for conducting this research is to encourage gender diversity in the logistics sector, making the workplace more welcoming and equal for everyone.

1.1. Research Problem

Although it continues to be largely male-dominated, Sri Lanka's economy greatly benefits from the logistics sector. Gender imbalance is a recurring problem in the logistics sector, as women are still underrepresented in leadership positions (Winkler, 2022). Nunes Amaral et al. (2020) have emphasized the need of encouraging gender balance in the logistics sector to create a more sustainable and inclusive workplace. Despite recent improvements, Sri Lanka's logistics industry still lacks gender diversity, which limits the opportunities for women to enter and advance in the field. To encourage a more inclusive and equal workplace, it is important to address the gender disparity in Sri Lanka's logistics sector.

Since there is limited research in this area, this paper aims to address the lack of representation of women in the logistics industry in the Sri Lankan context.

1.2. Research Objectives

- To evaluate the impact of the gender pay gap on gender imbalance in the logistics industry
- To evaluate the impact of family factors on gender imbalance in the logistics industry
- To evaluate the impact of cultural norms on gender imbalance in the logistics industry
- To evaluate the impact of educational background on gender imbalance in the logistics industry

1.3. Research Questions

- Is there any impact of the gender pay gap on gender imbalance in the logistics industry?
- Is there any impact of family factors on gender imbalance in the logistics industry?
- Is there any impact of cultural norms on gender imbalance in the logistics industry?
- Is there any impact of educational background on gender imbalance in the logistics industry?

02. Literature Review

For this study, a systematic literature search on studies on gender imbalance in the logistic industry from the perspective of information providers and information receivers published from 1975 to 2022 was carried out. This study paid special attention to the shortage of participation of Sri Lankan women in the logistics industry. According to the literature, significant factors affecting the gender imbalance in the labor force have been identified across a variety of domains (gender pay gap, cultural norms, family factors, and educational background) and they served as the study's independent variables. The gender imbalance is the dependent variable.

According to Brien (2018), the gender pay gap was the average compensation difference between working men and women. One interesting result from the literature was that there was a sizable and pervasive gender wage discrepancy in the logistics sector. For instance, research by the International Labor Organization (ILO) in 2018 found that women worldwide earned 20% less than men in jobs involving transportation and storage (ILO, 2018). Similarly, a 2019 study by the World Bank revealed that the estimated gender pay gap in the logistics sector in Europe and Central Asia was roughly 25% (World Bank, 2019). According to these results, the gender pay gap in the logistics sector is mostly caused by women receiving continuous lower pay than males.

These details were revealed when focusing on cultural norms in which the meaning was more profound. It alluded to the environment of shared beliefs, expectations, standards, and symbols within a social group. Culture is built on values, which included what was right and wrong (Esper et al., 2021). According to Edirisinghe (2018) when hiring new employees, employers frequently gave preference to male candidates for a variety of clear reasons. Women were hesitant to work late hours due to Eastern cultural values and social customs. Focusing on religion as the first non-economic factor, in Muslim countries like Egypt, and Catholic nations like Italy and Spain, women's participation rates in the labor force, which were often more patriarchal, were typically lower (Winkler, 2022).

A family is a group of people living together in some relationship. Among the family factors that this literature focuses on, are traditional gender roles, family responsibilities, and work-family balance. The gender gap in the logistics sector has also been linked to work-family balance or the lack thereof. Women frequently struggled to balance their job and family commitments, which increased stress and burnout and could harm their chances of moving up in the workplace (Zahidi & Ibarra, 2010). Research by (Winkler, 2022) and Maloney & Carolyn (2016) found that women in the logistics industry could be disproportionately affected by the absence of supportive work-family policies, such as flexible work schedules and paid parental leave, making it difficult for them to balance their work and family responsibilities.

Education is the set of all formal education that people have achieved, plus any new learning opportunities people are pursuing or plan to pursue soon (Zahidi & Ibarra, 2010). The gender gap in the logistics sector could be addressed through education and training. For instance, a study conducted by academics at the University of Nottingham in the UK discovered that initiatives to promote gender diversity in the logistics sector through educational initiatives to increase the engagement of women could be successful (Chiang et al., 2016). Higher levels of education were linked to more gender diversity in logistics management jobs, according to

research from the University of Gothenburg in Sweden. These findings implied that education and training could play a significant role in promoting gender diversity in the logistics industry worldwide (Maloney & Carolyn 2016).

The value of females' market salaries in comparison to the value of their non-market time was the primary factor affecting their participation in the workforce. The proportion of people in the labor force varies greatly between countries. It is essential to consider regional differences in institutions, and non-economic factors including cultural values and government regulations to truly understand this global diversity. These variations provided essential insights into potential steps that nations might take to further increase the number of women who worked in the workforce (Winkler, 2022).

03. Methods

This study focuses on the population of 82 logistic companies listed on the export development board. The decision to focus on these organizations is driven by their involvement in international trade and their significance in the logistics sector. To ensure a representative sample, a stratified sampling technique was employed. The population of 82 companies was divided into distinct strata based on their size (small, medium, large). The sample size of 384 was determined using the Morgan table. Within each stratum, companies were selected randomly to be included in the study. This approach helped to ensure that companies of different sizes are proportionally represented in the study. The respondents in this study were employees and managers working in various functional areas within the selected logistics companies. The data analytical technique used in this study is AMOS which is a powerful tool for conducting SEM and testing complex relationships among variables. To measure the variables in this study a Likert scale questionnaire was developed based on a comprehensive literature review.

Table 1: Demographic Information

Gender	Male	254	66.1
	Female	130	33.9
Total		384	100.0
Marital Status	Single	194	53.3
	Married	165	45.3
	Separated	3	0.8
	Divorced	2	0.5
Total		384	100.0

3.1. Data Analysis

This study used quantitative data analysis to examine the collected data and draw inferences about the research issue. Surveys were used to investigate multiple variables, and descriptive and inferential statistics were used to summarize and measure the data. The structure equation model (SEM) was used to examine the complex relationship between multiple variables. AMOS software was utilized to analyze the data because of its user-friendly interface and ability to run various statistical tests.

The validity of the sample was analyzed using demographic characteristics (Table 2). The study included 384 employees from logistics companies in Sri Lanka, and all 384 responses received for the questionnaire were considered.

The reliability of the study (Table 2) variables was assessed using alpha values. 'gender pay gap', 'family factors', 'cultural norms', 'education background', and 'gender imbalance' all showed high reliability with alpha values above the 0.7 threshold, indicating that the study items are internally consistent and measure what they were intended to measure.

Table 2: Reliability test

	Variables	Items	Cronbach Alpha
Independent Variable	GPG	7	0.909
	FF	7	0.926
Dependent Variable	CN	7	0.892
	EB	3	0.833
	GI	7	0.792

04. Results and Discussion

The fit indices of the confirmatory factor analysis (CFA) were compared to the required values for each fit index in (figure 1). The p-value of the chi-squared test indicates that the model adequately captures the unobserved variables. The gender imbalance employed in the model as a latent endogenous variable showed a good fit with a score of 0.905, a chi-square value of 3.613, a CFI of greater than 0.9, and an RMSEA of less than 0.08. The model fits the data fairly well, as indicated by the RMSEA of 0.08.

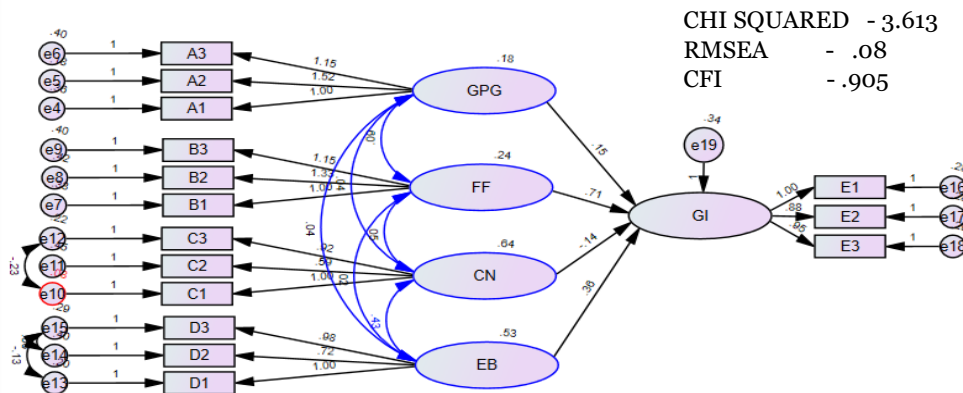


Figure 1: Structural Equation Model

Regression analysis (Table 3) may be used to estimate the dependent variable if the independent variable is known. This test allows for the identification and evaluation of the factors that most substantially influence gender imbalance. The results of the regression analysis were used to establish four variables. Multiple regression was employed in the study since it involved four independent variables and a structural equation model. The study should have a P-value of less than 0.05. A critical ratio (CR) value higher than 1.96 shows that the variable is significant at the 0.05 level, in accordance with the assumptions provided by Ang et al. (2021). To get the CR value, divide the regression load by a standard error.

Table 3: Regression Result

Dependt Variable	Independent Variable	The Actual Beta Value	S.E.	C.R.	P-Value	Sicnificant Level
GI	Gender Paygap	.092	.115	1.345	.179	Not significany
GI	Family factors	.483	.117	6.044	0.001	Significant
GI	Cultural norms	-.158	.076	-1.873	.061	Not significany
GI	Educational background	.362	.094	3.809	0.001	Significant

The squared multiple correlations were 0.36 for gender imbalance, this shows that 36% variance in gender imbalance in the logistics industry is accounted for by the gender pay gap, family factors, cultural norms, and educational background (Table 4).

The study assessed the impact of the gender pay gap on gender imbalance in the logistics industry. The impact of the gender pay gap on gender imbalance in the logistics industry was positive but insignificant ($b = .092$, $t = 1.345$, $p = .179$); so, H1 was not supported. This hypothesis is rejected because the study focused on a specific time period or geographic region, where the gender pay gap did not have a significant impact on gender imbalance in the logistics industry. It is possible that the relationship between these variables varies across different time periods or locations. Also, this does not agree with the finding of the World Bank (2019), which pointed out that women received less salary, an ill-treatment compared to men in the logistics industry. The reason for this is that the previous literature has focused on Europe and Central Asia, while this study focused on the Sri Lankan logistics sector.

The impact of family factors on gender imbalance in the logistics industry was positive and significant ($b = .483$, $t = 6.044$, $p < .001$); so, H2 was supported. This agrees with the findings of Zahidi and Ibarra (2010) and Winkler (2022) who revealed that women in the logistics sector were supposed to perform their workplace tasks while balancing their relationships with their family members, while men in the same sector did not have the same issue.

The impact of cultural norms on gender imbalance in the logistics industry was negative but insignificant ($b = -.158$, $t = -1.873$, $p = .061$); so, H3 was not supported. This does not agree with Winkler (2022) who demonstrated that women in Muslim countries were very reluctant to join the labor force due to cultural barriers. Similarly, this does not accept the finding of Edirisinghe (2018) who explained that employers gave priority to men when hiring new employees for the organization. Hence, economic factors, institutional policies, discrimination,

or occupational segregation could have overshadowed the influence of cultural norms in this study. Without adequately controlling for or considering these factors, the impact of cultural norms on gender imbalance may not have been accurately assessed.

The impact of educational background on gender imbalance in the logistics industry was positive and significant ($b = .362$, $t = 3.809$, $p < .001$); so, H4 was supported. This means that when logistics industry people get more educated, they are much more drawn towards causing gender imbalance in the firm. However, this does not agree with Meloney and Carolyn (2016) who showed that education and training could enhance gender diversity within the logistics industry.

Table 4: Hypothesis testing

Hypothesis relationship	Standardized estimates	t-value (CR>1.96)	p-value (P < 0.05)	Decision
Gender pay gap	.092	1.345	.179	Not supported
Family factors	.483	6.044	.001	Supported
Cultural norms	-.158	-1.873	.061	Not supported
Education background	.362	3.809	.001	Supported

05. Conclusion

This study aims to investigate the impact of the gender pay gap, family factors, educational background, and cultural norms on gender imbalance in the logistics industry in Sri Lanka. The impact is measured using the primary data gathered using questionnaires. In order to analyze the data the AMOS statistical package has been utilized. Sri Lankan logistic companies were chosen as the population. The study's findings have significant policy implications for employers and policymakers who are committed to promoting gender diversity and inclusivity in the workplace. Employers can take proactive steps to address cultural biases and gender imbalance in the workplace and provide equal opportunities for women to access education and training opportunities; policymakers can implement policies that address gender stereotypes and cultural biases in society and promote access to education and training opportunities for women. Further study is needed to determine how beneficiaries' gender-based disadvantages and access to help affect delivery performance. The impact of mission and aid program design on the recipient's ability to receive aid and ultimately the effectiveness of a disaster relief operation remains poorly understood. Furthermore, no research has been found to date that has investigated the interaction of information, financial, and especially material flows in humanitarian logistics. Certainly, further study is needed to better understand how funding strategies affect humanitarian logistics.

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