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The Inexorable Link: Examining the Role of Reading and Listening Skills in Developing Speaking Fluency Across Languages

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Abstract

This qualitative research investigates the relationship between receptive language skills—reading and listening—and the development of speaking fluency across languages. Grounded in Second Language Acquisition (SLA) theories, particularly Krashen’s Input Hypothesis and Swain’s Output Hypothesis, the study argues that sustained, comprehensible input is a decisive factor in oral proficiency development. Drawing on semi-structured interviews with adult language learners, the paper presents participant demographics, thematic findings with illustrative excerpts, and a comparative discussion aligned with prior literature. The study further proposes classroom strategies for creating input-rich environments and outlines future research directions, including longitudinal and mixed-method designs to examine input exposure and oral proficiency gains over time.

Keywords: Receptive Skills, Speaking Fluency, Comprehensible Input, Extensive Reading, Listening Input, Oral Proficiency, Thematic Analysis, SLA

1. Introduction

Language learning is traditionally framed through the four skills—Listening, Speaking, Reading, and Writing (LSRW). Among these, listening and reading function as receptive skills that supply linguistic input, while speaking and writing are productive outcomes. In many contemporary classrooms, however, instructional emphasis disproportionately favours speaking practice, often at the expense of systematic input exposure. This imbalance frequently results in anxiety, fossilised errors, and limited fluency.

This paper contends that speaking fluency is not an isolated skill developed through practice alone, but rather an emergent outcome of prolonged exposure to rich and meaningful language input. By examining learners’ lived experiences, the study seeks to highlight how reading and listening act as the cognitive and linguistic foundation upon which spoken competence is built.

2. Review of Literature

Existing SLA literature consistently foregrounds the primacy of input in language acquisition. Krashen's Input Hypothesis posits that acquisition occurs when learners are exposed to comprehensible input slightly above their current proficiency level ($i+1$). Listening and reading thus become central mechanisms through which grammatical patterns, vocabulary, and discourse conventions are internalised.

Listening has been identified as the earliest and most natural channel of language acquisition, shaping phonological awareness, intonation, and fluency. Reading, particularly extensive reading, contributes to lexical depth, syntactic awareness, and automaticity. While Swain's Output Hypothesis underscores the importance of production for noticing gaps, it nevertheless acknowledges that meaningful output presupposes sufficient input.

Empirical studies have demonstrated positive correlations between receptive exposure and oral proficiency, reinforcing the view that speaking competence is an outcome of cumulative linguistic intake rather than isolated oral drills.

3. Methodology

3.1 Research Design

The study adopts a qualitative, interpretive research design, using a phenomenological approach to understand learners' perceptions of how reading and listening influence their speaking ability.

3.2 Sampling Rationale

Purposive sampling was employed to select participants who had sustained engagement with second or foreign language learning. This approach ensured information-rich cases capable of providing deep insights into the input–output relationship. Participants were selected across proficiency levels (A2–C1) to capture developmental variation.

3.3 Participant Demographics

The sample comprised **24 adult learners** aged between **18 and 42 years**, representing diverse linguistic backgrounds. Participants were learning English, French, or German in academic or professional contexts. Approximately 58% were postgraduate students, while the remainder were working professionals. Exposure contexts included classroom instruction, self-study, and informal digital input such as podcasts and videos.

3.4 Data Collection Tools

Data were collected using **semi-structured interviews**, each lasting 30–45 minutes. An interview guide was designed to explore:

Reading and listening habits

Perceived changes in speaking confidence and fluency

Learners' beliefs about the relationship between input and output

Interviews were audio-recorded and transcribed verbatim for analysis.

3.5 Trustworthiness Techniques

To ensure rigor and credibility, the study employed multiple trustworthiness strategies:

Credibility: Member checking was conducted by sharing thematic summaries with participants.

Transferability: Thick descriptions of context and participants were provided.

Dependability: An audit trail of coding and theme development was maintained.

Confirmability: Reflexive journaling was used to minimise researcher bias.

4. Data Analysis and Findings

Thematic analysis (Braun & Clarke, 2006) was used to analyse the data. Four major themes with related subthemes emerged.

Theme 1: Input as the Foundation of Speaking Confidence

Subtheme 1.1: Listening as a model for natural speech

Subtheme 1.2: Reading as a source of sentence structures

Key excerpt:

“When I started listening to podcasts daily, I stopped translating in my head. Speaking felt more natural.”

Theme 2: Vocabulary Internalisation through Repeated Exposure

Subtheme 2.1: Passive to active vocabulary transfer

Subtheme 2.2: Contextual learning through stories and audio

Key excerpt:

“Words I saw again and again in books started coming automatically when I spoke.”

Theme 3: Reduced Anxiety and Affective Filter

Subtheme 3.1: Low-pressure input environments

Subtheme 3.2: Increased willingness to speak

Key excerpt:

“Because I listened a lot before speaking, I was less scared of making mistakes.”

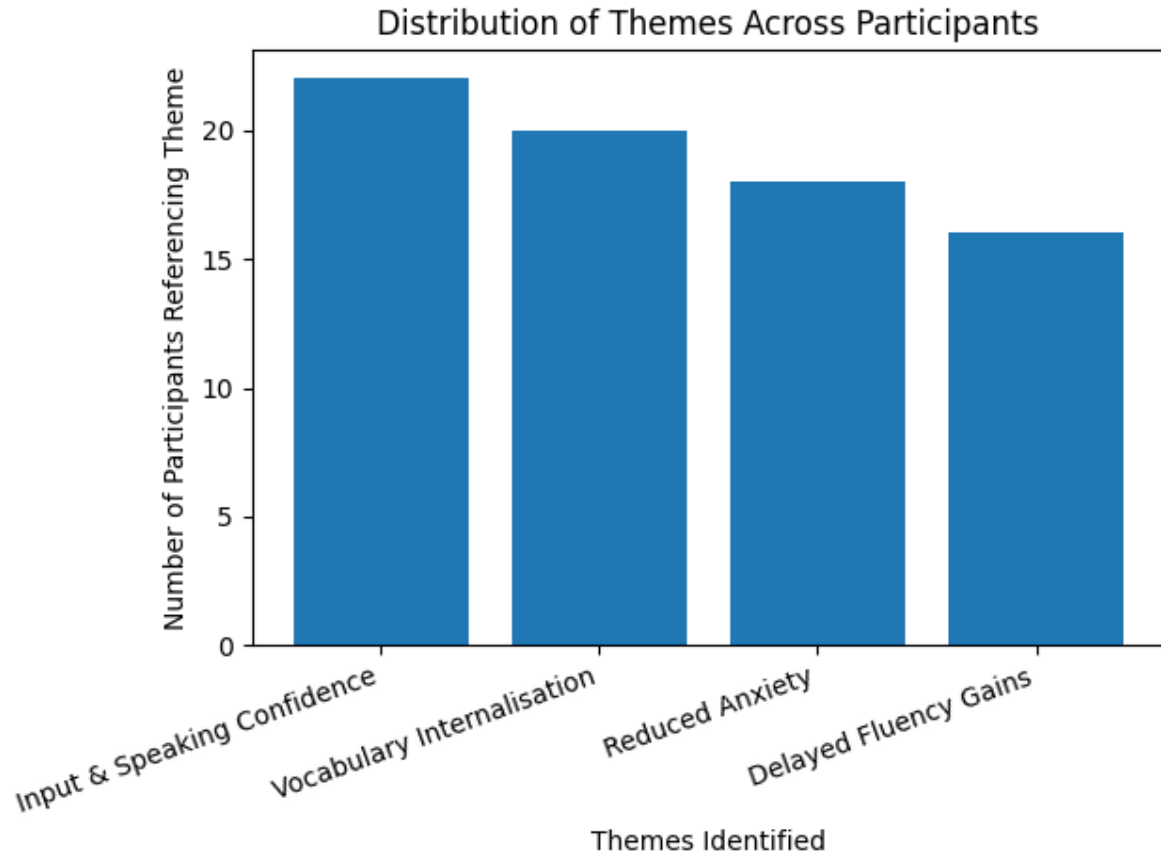
Theme 4: Delayed but Sustained Fluency Gains

Subtheme 4.1: Silent period as productive phase

Subtheme 4.2: Long-term fluency over short-term performance

Key excerpt:

“I didn’t speak much initially, but after months of reading and listening, fluency just happened.”



5. Discussion: Comparison with Prior Literature

The findings strongly align with Krashen’s assertion that comprehensible input is the primary driver of acquisition. Participants’ narratives corroborate earlier studies linking listening exposure with phonological accuracy and reading with lexical and syntactic development. The reported reduction in anxiety supports the affective filter hypothesis, while delayed fluency gains resonate with research on silent periods in adult learners.

While Swain emphasises output for noticing gaps, the present findings suggest that output becomes meaningful and sustainable only after substantial input accumulation, thereby reinforcing an input-first pedagogical orientation.

6. Pedagogical Implications and Classroom Strategies

To operationalise input-rich instruction, the following strategies are recommended:

Podcast-Based Comprehension Tasks: Curated podcasts with guided pre- and post-listening activities to enhance comprehension and noticing.

Extensive Reading Clubs: Learner-selected reading followed by informal discussion, fostering low-anxiety input exposure.

Input–Output Integrated Curricula: Designing lessons where listening and reading tasks naturally lead into reflective speaking activities rather than forced production.

These strategies promote linguistic saturation while maintaining learner motivation and confidence.

7. Methodological Limitations

While the study provides rich qualitative insights, certain limitations must be acknowledged. First, the reliance on self-reported data may introduce recall bias or subjective overestimation of perceived fluency gains. Second, the sample size, though adequate for qualitative inquiry, limits generalisability across broader learner populations. Third, the cross-sectional design captures perceptions at a single point in time, restricting claims about causal relationships between input exposure and speaking development. Finally, the absence of standardised proficiency testing means that improvements are interpreted through participant narratives rather than objective performance metrics.

Recognising these limitations strengthens the interpretive validity of the study and situates the findings appropriately within qualitative SLA research.

8. Future Research Directions

Future studies should:

Employ **longitudinal designs** to track input exposure and speaking development over extended periods.

Use **mixed-method approaches**, combining proficiency tests with qualitative interviews.

Compare different **input intensity levels** (e.g., extensive vs. limited exposure) and their impact on oral proficiency gains.

Examine digital input sources such as audiobooks, podcasts, and AI-assisted reading platforms.

9. Visual Representation of Findings

To enhance analytical transparency, a thematic frequency overview was generated based on participant references to major themes. Although qualitative research does not prioritise quantification, such visualisation supports pattern recognition and reader clarity.

Figure 1. Distribution of Dominant Themes Across Participants (Input & Speaking Confidence; Vocabulary Internalisation; Reduced Anxiety; Delayed Fluency Gains)

Figure 1 illustrates the frequency with which participants referenced each major theme during the interviews. The visual representation is derived from thematic coding counts and is intended to support qualitative pattern recognition rather than statistical generalisation.

The visual trend indicates that input-related confidence and vocabulary internalisation were the most frequently cited experiences, reinforcing the centrality of receptive exposure in oral proficiency development.

10. Conclusion

This study reaffirms that reading and listening are not supplementary skills but the core drivers of speaking fluency. Speaking proficiency emerges as a natural outcome of sustained, meaningful input rather than isolated oral practice. For educators and curriculum designers, the implication is clear: fluency-oriented instruction must prioritise input-rich environments to enable authentic and lasting language development.

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Improving job performance of software sector employees: Quantitative evidence from the software firms in Colombo District, Sri Lanka

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Abstract

This paper examines how employee performance is influenced by high-performance work practices, emotional intelligence, and job satisfaction among Sri Lankan software firms in the Colombo district that employ workers from multiple nationalities. The Job Demands Resources theory and Social Exchange theory serve as the theoretical framework for the study. Research on employee management in the software industry is limited, particularly within the Sri Lankan context. This study contributes to the existing body of knowledge by focusing specifically on software firms that employ both Sri Lankan employees and outsourced staff from countries such as India. The analysis is based on 90 responses collected through online surveys and examined using Regression analysis. The results indicate that high-performance work practices, emotional intelligence, and job satisfaction are positively associated with employee performance. The findings suggest that software firms should adopt these practices to enhance performance. Accordingly, the study recommends implementing proper feedback systems, computerized supervision and performance evaluation system, performance recognition programs, reduced power distance between employees and managers, and greater freedom to maintain work life balance.

Key words: Employee performance, high performance work practices, job satisfaction, emotional intelligence, software industry

1.0 Introduction

Over the past few decades, the global Information technology (IT) industry has been expanding rapidly. The industry has shown great potential for growth providing software solutions to many industries ranging from retail, finance, energy etc. amidst many global challenges in the past years. Currently, Sri Lanka has over 300 companies operating in the field of software products development serving both local and foreign clients (Jayawarna & Fonseka, 2011). According to Weerasinghe (2019), Sri Lanka's skilled IT workforce plays a crucial role in generating foreign income for the country. The country boasts a diverse IT workforce, powering global businesses through off-shore operations while simultaneously fostering domestic software development that produces world-class products. Poised for continued expansion, Sri Lanka's IT workforce has grown significantly in recent years, with a 50.7% increase observed between 2014 and 2018.

IT sector or the software industry being the highly demanded and emerging industry considers the workforce as the crucial and valuable asset (Weerasinghe, 2019). Organizations have to retain key employees and keep them satisfied in order to increase performance levels and to gain competitive advantage over other organizations (Hettiarachchi, 2014). A study by Blackburn et al. (1996) identified the quality of individuals within software development teams significantly impacts both the productivity and the overall quality of the final project.

Despite the development and opportunities in the software market of Sri Lanka there are weaknesses and threats faced as well. Sri Lanka's software industry boasts significant growth since 1996, yet faces mounting pressure to satisfy clients' ever-growing demands. Even though the importance for software quality has increased, improvements in quality haven't kept pace yet. Companies actively strive to enhance quality, recognizing the substantial costs of poor quality, including lost productivity, downtime, and dissatisfied customers (Jayawarna & Fonseka, 2011).

A number of research studies can be seen about the factors affecting the performance of IT professionals. According to Hettiarachchi (2014), the level of job satisfaction among employees has a significant impact on IT professionals' job performance. As per Seigel et al. (2022), to measure and observe employee performance; monitoring and maintenance are used. In the present day, almost all jobs are monitored electronically, primarily those relating to the software sector. As per Wen et al. (2007), monitoring technology empowers employers to observe and report on the internet activities of their employees.

Emotions have a crucial role in the performance of individuals effectively and efficiently. Existing studies argue that the companies should consider investing in the training of professionals in emotional intelligence as it develops self-management, social skills, and relationship management (Radha & Shree, 2017).

Even though there are plenty of studies conducted to examine the factors that impact work performances in general, only a handful of them have been studied, especially in relation to the performance of IT professionals. Since we conducted this study in the Sri Lankan context and also based on Colombo district, it will empirically contribute to the existing literature.

1.1. Research Problem

There is limited empirical knowledge of how human resource-related elements including high-performance work practices, emotional intelligence, and job satisfaction jointly affect employee performance, despite the strategic significance of human capital in this industry (Huemann et al., 2007). The literature that is now available recognizes the importance of these constructs, but the results still vary and frequently come from foreign contexts, which limits their applicability to Sri Lanka's particular business characteristics, which include multicultural teams and demanding work schedules. Additionally, software companies are depending more and more on diverse project teams, which need for excellent interpersonal skills, supporting organizational structures, and technical proficiency (Hettiarachchi, 2014). However, there hasn't been enough research done in this context to fully understand how organizational strategies and individual skills transfer into improved job performance.

This gap requires a targeted study that looks at how these variables relate to one another in actual organizational settings. Thus, the lack of knowledge on how high-performance work practices, emotional intelligence, and job satisfaction affect employee performance in Sri Lankan software companies situated in the Colombo district is the main research question.

1.2. Research Questions

01. What is the impact of high-performance work practices (HPWP) on the job performance of employees working in software firms in the Colombo District of Sri Lanka?
02. What is the impact of emotional intelligence on job performance of employees working in software firms in the Colombo District of Sri Lanka?

03. What is the impact of job satisfaction on job performance of employees working in software firms in the Colombo District of Sri Lanka?

2.0 Literature Review

Human Resource Management literature has identified many universalistic practices to develop employee performance to increase organizational performance but only a few are in the field of software and project-based organizations (Wickramasinghe & Liyanage, 2013). The software companies are also involved in outsourcing the job to outsider employees. As per the literature outsourced employees' performance are influenced by many factors such as supervision, resources provided and employment relationship (Wickramasinghe & Kumara, 2010). Such factors could cause performance gaps between local and outsourced employees from other countries.

As in all organizations employees' job performance is very vital and in software industry individual employee success leads to organization's success (Radha & Shree, 2018). Job performance of employees lays the foundation to achieve desired organizational goals and objectives where individual employee's job performance is influenced by various combinations of factors such as productivity, quality and satisfaction (Hettiarachchi, 2014).

2.1 Job Performance

According to Porter and Lawler (1968), Job performance can be defined as the successful completion of the tasks that make up an individual's job task, duties and responsibilities. According to Opatha (2002), an employee's job performance can be assessed through their characteristics, actions, and outcomes.

In the past studies carried out, job performance has been studied based on different industries including software sector. Social Facilitation Framework (Zajonc, 1965), has been used by many scholars such as Vorvoreanu and Baton (2000) and Griffith (1993) to identify the impact of different factors such as monitoring on the job performance. The studies conducted using Social Exchange Theory (Cropanzano & Mitchell, 2005) inquires impact on job performance in return to what organization offers to the employees. Job Characteristics Model (Hackman & Oldham, 1976) studies the job design factors such as job tasks, monitoring and skills and the influence on job performance. In addition, the Job Demands - Resources Model also identifies

job demand factors and job resource factors which will create varied outcomes or performances within the organizations (Kloutsiniotis & Mihail, 2020). Understanding the impact on job performance is therefore vital for organizations to implement the right strategies.

2.2 High Performance Work Practices (HPWP)

High Performance Work Systems (HPWSs) are distinctive sets of interconnected human resource management practices that work together to enhance employees' skills, motivation, and engagement within organizations (Dorta-Afonso and Gonzalez-de-la-Rosa, 2022; Messersmith et al., 2011; Sun et al., 2007). The goals of implementing HPWPs within an organization are to enhance performance and cost-effectiveness by fostering employee satisfaction and commitment through increased involvement and participation (Gollan, 2005).

According to Becker and Huselid (1998), Organizations implementing HPWS invest in their human resources by offering training, empowerment, and opportunities to enhance employees' knowledge, skills, and abilities. This investment boosts motivation, reduces absenteeism, and lowers turnover rates. It also encourages underperformers to exit, serving as a potential source of competitive advantage. Essentially, HPWSs significantly contribute to enhancing the attitudes and behaviors of employees, thereby positively impacting organizational performance (Zhang & Morris, 2014).

According to Patterson et al. (1997), practices such as performance evaluation, training and advancement, and teamwork which are part of HPWPs have a considerable positive impact on productivity. Past studies indicate that HPWPs result in higher performance levels within the United States and the United Kingdom (Appelbaum et al., 2000; and Macky & Boxall (2008).

While many prior studies show a positive correlation between HPWPs and organizational performance, a few qualitative researches reveal that employees often face heightened job responsibilities and work pressure following the implementation of HPWPs. Employees tend to respond favorably only when the increase in job responsibilities doesn't lead to a rise in stress and strain (Mackie et al., 2001; Godard, 2004). According to Godard (2004), while HPWPs might prove highly effective in certain work environments, they may result in more adverse organizational outcomes in others.

2.3. Job Satisfaction

Job satisfaction refers to the emotions derived from an employee's perception of how well their job meets their personal needs (Kong et al., 2018). Job satisfaction is influenced by the factors in the working environment, including the attitudes of senior personnel, company policies and procedures and working conditions (Gibson et al. 1979). According to Luthans (2002), Job satisfaction can be gained by many sources such as pay, promotion, work itself and supervision. Workers experience higher job satisfaction when they have positive opinions about the job, nature of the work, acknowledgement and have opportunities for growth (DuBrin, 1997).

Software sector employees expressed satisfaction with job performance and there was positive correlation observed between job satisfaction components and job performance. However, Software employees consider recognition and appreciation over pay and other financial incentives (Hettiarachchi, 2014). On the other hand, there are also studies which suggest the relationship between job satisfaction and performance is not always positive and could vary according to situational factors and individual factors (e.g., Judge et al., 2001). According to Scholarios and Marks (2004), there hasn't been a thorough study yet on how software developers feel about how work is organized in the software outsourcing industry.

2.4. Emotional intelligence

Emotional Intelligence is the capacity to recognize, evaluate, and convey emotions effectively; the skill to comprehend emotions and emotional insights; the capability to tap into and create emotions where they aid cognitive functions and adaptive behaviors; and the capacity to manage emotions in oneself and others (Mayer et al., 2004).

Management and organizational researches suggest that employees with emotional intelligence are better team players, possess leadership skills and adaptable at stressful situations (Nikolaou & Tsaousis, 2002). According to Salovey and Mayer (1990), managing the sentiments and comprehension is the most important benefit of emotional intelligence. It allows people to manage one's behavior and conduct along with the association with other people (Goleman, 1998), and it plays an important role in today's complex and advanced working environment (Nordin, 2012).

According to Wong and Law (2002), there exist a significant relationship between emotional intelligence and job performance and the positive impact of emotional intelligence on job

performance was beyond the impact of general mental abilities to work. Emotional intelligence of employees leads to effective management, organizational development and creates a pleasant work environment (Patra, 2004). In order to develop human resources of an organization emotional intelligence training is important (Hosseinian et al., 2008). According to Shooshtarian et al. (2013), high emotionally intelligent employees had self-confidence, managed conflicts effectively and had positive emotions. However, employee commitment doesn't have a significant relationship with emotional intelligence as such employees have many opportunities to choose from. In addition, the correlation between emotional intelligence and job satisfaction and performance is weak when looking at the interpersonal dimensions of emotional intelligence (Ashraf et al., 2014).

2.5. The Job Demands Resources Theory

This theory has been used as the prominent theory to base this study. The Theory of Job Demands Resources was developed by Dr. Arnold B. Bakker and Dr. Evangelia Demerouti in 2001 initially as a way to study burnout but later developed to understand various other aspects related to job such as organizational commitment, work enjoyment, work engagement, employee wellbeing and job performance (Bakker & Demerouti, 2014).

The physical, psychological, social, and organizational characteristics of a job that involve continuous physical and/or psychological effort and are thus linked to specific physiological and/or psychological costs are referred to as job demands. The physical, psychological, social, and organizational components of a job that: (a) help achieve work goals; (b) lessen job demands and the related physiological and psychological costs; or (c) foster learning, development, and personal growth are referred to as job resources (Bakker & Demerouti, 2007).

2.6. Social Exchange Theory (SET)

This theory was introduced by George Homans in 1958. The Social Exchange Theory's basic principle is that human relationships are shaped by subjective cost-benefit analysis, which means that people frequently repeat behaviors that have previously resulted in rewards; the more frequently a behavior has been rewarded, the more likely it is to recur (Homans, 1958). According to SET, the core principle of reciprocity governs interactions between employers and employees (Blau, 1964). In other words, in the mutually beneficial interactions between employers and employees, when either party provides something, the other will feel compelled

to return the favor in a comparable manner. Employees will respond positively to the organization through their attitudes and behaviors if they believe that the management value, respect, and treat them well (Cropanzano & Mitchell, 2005).

2.7. Research Gap

While organizational behavior research has extensively studied high-performance work practices, emotional intelligence, job satisfaction, and job performance, there is still a significant lack of studies that use the Job Demands Resources (JD-R) theory and Social Exchange Theory to explain how these variables interact in the software industry. There is little empirical research based on these theories in Sri Lanka, and the majority of the literature currently in publication concentrates on Western or generalized corporate environments. Specifically, the Colombo District's software sector functions under special conditions that vary from other working environments. Because of this, there is a lack of theoretical and empirical knowledge about how emotional intelligence functions as an individual resource, how high-performance work practices function as organizational resources, and how these factors affect job satisfaction and ultimately job performance. This gap highlights the need for studies that combine these theories to look at factors that affect employee performance in Sri Lanka's software sector, especially in the Colombo District.

2.8. Hypothesis Development

Hypothesis 1.

H1A: There is a positive relationship between High Performance Work Practices and Job performance of employees working in software firms in the Colombo District of Sri Lanka?

Performance evaluation, training and advancement, and teamwork are examples of HPWP activities that have a significant positive influence on productivity, according to Patterson et al. (1997). Previous research suggests that HPWPs lead to improved performance levels in the UK and the US (Appelbaum et al., 2000; Macky & Boxall, 2008). A small number of qualitative studies indicate that employees frequently experience increased job duties and work pressure after the introduction of HPWPs, despite the fact that numerous earlier studies demonstrate a direct relationship between HPWPs and organizational success. Workers typically only react positively when an increase in job responsibilities does not result in an increase in stress or strain will employees often respond favorably (Mackie et al., 2001;

Godard, 2004). Godard (2004) asserts that whereas HPWPs may be extremely successful in some work settings, in others they may have greater detrimental effects on the company.

Hypothesis 2.

H2_A: There is a positive relationship between Emotional Intelligence and Job performance of employees working in software firms in the Colombo District of Sri Lanka?

Emotional intelligence and job performance are positively correlated, and the effect of emotional intelligence on job performance is greater than that of general logical talents (Wong & Law, 2002). Employee emotional intelligence fosters positive organizational development, efficient management, and a happy workplace (Patra, 2004). Training in emotional intelligence is crucial for an organization's human resource development (Hosseinian et al., 2008). High emotionally intelligent workers, according to Shooshtarian et al. (2013), exhibited good feelings, were self-assured, and could effectively handle conflict. Since these workers have many of options, there isn't much of a correlation between emotional intelligence and employee loyalty.

Hypothesis 3.

H3_A: There is a positive relationship between Job Satisfaction and Job performance of employees working in software firms in the Colombo District of Sri Lanka?

Employees in the software industry indicated satisfaction with their work performance, and a positive link was found between the elements of job satisfaction and job performance.

Employees in software, however, value appreciation and recognition more than compensation and other financial benefits (Hettiarachchi, 2014). However, other research indicates that the correlation between job satisfaction and performance is not always favorable and may differ depending on both personal and situational circumstances (Judge et al., 2001, for example).

2.9. Conceptual Framework

This research study's conceptual framework has four principal variables. The independent variables include HPW practices, emotional intelligence, and job satisfaction; the dependent variable is job performance. The impact on job performance was examined by analyzing each independent variable separately.

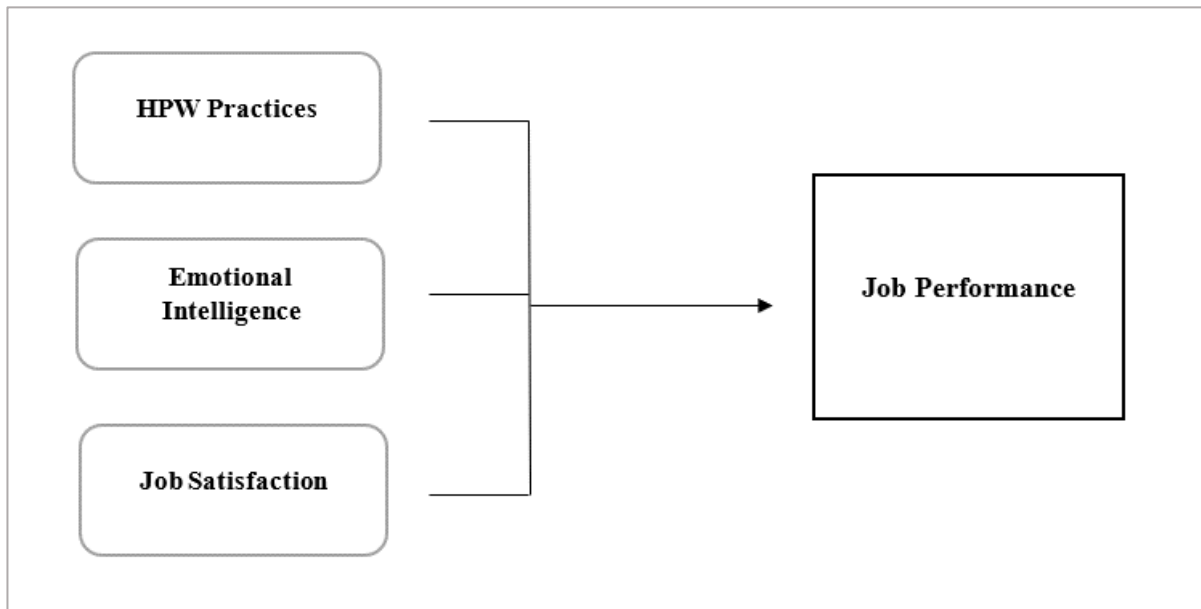


Figure 1. Conceptual framework

3.0 Research Methodology

3.1. Research Paradigm

According to Saunders (2009), Positivism is a research philosophy that emphasizes the use of empirical evidence and scientific methods to study social phenomena. Positivists believe that reality is objective and can be observed and measured through systematic observation and experimentation. Therefore, positivism approach has selected as the research philosophy based on the nature of research questions and objectives of this study. Positivism aligns well with the objective of analyzing the impact of variables such as emotional intelligence, job satisfaction and high-performance work practices on employee performance in a systematic and empirical manner.

3.2. Research methodology

The study applies a quantitative approach to examine the relationship between the variables. Past scholars have employed various strategies in similar studies. For instance, Radha and Shree (2017) utilized surveys and statistical analysis to investigate the impact of emotional intelligence on job performance. Samaranayake and Gamage (2011) employed structured questionnaires to explore the relationship between job satisfaction and employee performance. Locke (1976) employed questionnaires and interviews to explore the relationship between job satisfaction and employee performance. In addition, Researchers such as Wickramasinghe et al. (2010), Siegel et al. (2022), Hettiarachchi (2014), and Radha et al. (2017) have relied on

quantitative methods in order to evaluate employees' work performance based on several variables.

3.3. Research Approach

As for the research approach, the deductive approach implemented rooting on the Job Demands Resources Theory and Social Exchange Theory based on which the hypothesis were developed. Therefore the study was theory based and was aiming to establish valid relationships among the said variables.

3.4. Research strategy

As this study falls into the category of quantitative research, decision was made to choose Cross-sectional data since it is more advantageous in quantitative research for its efficiency in gathering information at a single point in time. This method provides a snapshot of the population, enabling researchers to compare variables across different groups simultaneously (Trochim, 2006). Convenience sampling method is suitable for this study due to its easy accessibility to both local and foreign employees within the organization. This approach enables to collect data quickly without significant time or resource constraints.

3.5. Population

In this research, the target population will comprise all employees, both local and foreign, who have been employed in the software firms in Colombo District.

3.6. Sampling Method and Size

Convenience sampling method is suitable for this study due to its easy accessibility to both local and foreign employees within the organization. This approach enables to collect data quickly without significant time or resource constraints. The Morgan table provides recommended sample sizes based on the size of the population and desired confidence level.

The target population contains nearly 90 units of analysis (employees), the table suggested a sampling size of 73 units as a representative population (Krejcie & Morgan, 1970).

3.7. Data Collection

Standardization in survey questions and responses reduces bias and enhances data reliability, making surveys a valuable tool for measuring variables and testing hypotheses in quantitative research (Creswell, 2014). Thus, structured questionnaires were presented to the respondents

to provide data using a self-administered Likert Scale. The questionnaire consists of 69 questions relating to all variables of the study for respondents to answer.

3.8. Data Analysis Technique

Regression analysis is highly suitable for quantitative research due to its ability to examine relationships between variables and predict outcomes. It allows researchers to identify the strength and direction of associations among multiple variables, making it particularly useful for exploring complex relationships (Hair et al., 2019). Specifically, techniques such as descriptive statistics, correlation analysis, and regression analysis are employed to analyze survey data and test hypotheses related to the performance gap of this study

3.9. Ethical Considerations

Adhering to ethical standards is crucial for enhancing the validity of research (Hasan et al., 2021). Accordingly, this study has been conducted within an ethical framework to ensure the privacy of participants and to guarantee that their data is used solely for academic purposes. The research upholds the principles of beneficence and non-maleficence, aiming to maximize benefits while avoiding harm to participants. Confidentiality and data privacy have been rigorously maintained, and anonymity has been preserved throughout the study.

3.10. Data Analysis

The majority of the survey participants, accounting for 82.4% of the total sample, are identified solely as Sri Lankan. A smaller proportion of the sample, 17.6%, consists of employees who are nationals of countries other than Sri Lanka. In addition, the fact that a notable portion of employees are outsourced (41.9%) might suggest reliance on external labor for certain functions or tasks within the organization, whereas the majority of the workforce (58.1%) is directly managed and employed by the company.

3.11. Descriptive Statistics

All mean scores are below the midpoint of the scale, indicating generally positive perceptions across all four constructs. However, Job Performance has the highest mean, suggesting that respondents feel most positively about their performance, while Job Satisfaction has the lowest mean, indicating relatively lower satisfaction compared to the other constructs. The median scores are all close to the means, suggesting relatively symmetric distributions. The medians being slightly higher than the means for Job Performance and Job Satisfaction suggest a slight

positive skew. The standard deviations indicate moderate variability across the constructs, with Job Satisfaction showing the most variability, suggesting that respondents' satisfaction levels are more diverse compared to their views on job performance, work practices and emotional intelligence.

These descriptive statistics provide an overview of how respondents perceive their job performance, high performance work practices, emotional intelligence, and job satisfaction. The overall trend indicates positive perceptions, though with varying degrees of consensus among respondents. Job Performance and High-Performance Work Practices are perceived most consistently, while Job Satisfaction shows the greatest variability, indicating differing levels of contentment among employees.

Table 1

Descriptive Statistics

Statistics

	Job Performance	High Performance work Practices	Emotional Intelligence	Job Satisfaction
N	Valid	73	73	73
	Missing	0	0	0
Mean	3.8086	3.6534	3.6298	3.5135
Std. Error of Mean	.07996	.07270	.06743	.09080
Median	4.0000	3.7917	3.6577	3.6667
Std. Deviation	.68784	.62539	.58002	.78113

Table 2*Cronbach's Alpha Reliability Analysis of Variables*

	Number of Items	Cronbach's Alpha
HPW Practices	13	0.789
Emotional Intelligence	26	0.881
Job Satisfaction	6	0.932
Job Performance	6	0.928

A Cronbach's alpha value ranges from 0 to 1, where a value above 0.7 is generally considered acceptable, above 0.8 good, and above 0.9 excellent. High reliability in each of these areas suggests that the scales used are robust and likely yield trustworthy results that can inform organizational strategies and improvements.

Table 3*KMO and Bartlett's Test Statistics of Variables*

Construct	Number of Items	KMO Measures	Chi-square	Sig. Value
HPW Practices	13	0.650	71.750	0.000
Emotional Intelligence	26	0.0756	203.868	0.000
Job Satisfaction	6	0.844	385.178	0.000
Job Performance	6	0.886	393.628	0.000

As in this all KMO measures are more than 0.75 and it means that all ones are valid.

Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity are statistical measures used to assess the suitability of data for factor analysis. The KMO measures and Chi-square statistics indicate that most of the constructs (particularly Job Satisfaction and Job Performance) are

well-suited for factor analysis. The HPW Practices construct, with a lower KMO value, may require some attention, but it is still within an acceptable range.

3.12. Hypothesis Testing

A questionnaire inclusive of 13 questions was presented to analyze this independent variable. The relationship between job performance and High-Performance Work Practices has been identified to be statistically significant (Sig. (2-tailed) $p < 0.05$). The results support alternative hypothesis. Therefore, it's proven that High Performance Work Practices are positively relate with job performance (coefficient – 0.800).

Emotional intelligence which is an independent variable was analyzed with 26 questions. The relationship between job performance and emotional intelligence has been identified to be statistically significant (Sig. (2-tailed) $p < 0.05$). The results support alternative hypothesis. Therefore, it's proven that emotional intelligence is positively relate with job performance (coefficient – 0.765).

The independent variable of job satisfaction was analyzed with a questionnaire inclusive of 6 questions. The relationship between job performance and job satisfaction has been identified to be statistically significant (Sig. (2-tailed) $p < 0.05$). The results support alternative hypothesis. Therefore, it's proven that job satisfaction is positively relate with job performance (coefficient – 0.840).

Table 4

Hypothesis Testing Summary

	Hypothesis	Significant Value Result	
H1	There is a positive relationship between high performance Work Practices and Job performance	0.000	Accept H1
H2	There is a positive relationship between Emotional Intelligence and Job Performance	0.000	Accept H2

H3	There is a positive relationship between Job Satisfaction and Job Performance	0.000	Accept H3
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4.0 Discussion and Implications

The findings of this study show that job performance is significantly and positively related to high-performance work practices, emotional intelligence, and job satisfaction. These results are consistent with prior research, which has largely reported positive relationships among these variables, thereby reinforcing existing empirical evidence. The findings suggest that the effective application of these factors within the workplace can enhance employee job performance and contribute to long-term organizational sustainability.

The positive association between high-performance work practices and job performance indicates that organizational practices can motivate employees, as supported by earlier studies (Appelbaum et al., 2000; Macky & Boxall, 2008). However, improvements may be required in areas such as performance-based rewards and focused training and development. Ongoing evaluation of these practices is necessary to identify those with the greatest impact on job performance.

Similarly, emotional intelligence demonstrates a significant positive relationship with job performance, aligning with prior literature (Wong & Law, 2002; Patra, 2004). This highlights the importance of investing in emotional development programs and fostering an organizational culture that supports emotional competencies.

The positive relationship between job satisfaction and job performance is well established in organizational research (Cropanzano & Mitchell, 2005; Hettiarachchi, 2014). The Job Characteristics Model further supports this relationship by emphasizing factors such as autonomy, task variety, and feedback, which enhance motivation and performance (Hackman & Oldham, 1976). Strategies such as recognition, career development, and supportive management practices can enhance job satisfaction and employee performance (Eisenberger et al., 2001).

5.0 Recommendations

5.1. Implement a computerized supervision and performance evaluation system

Software firms can invest in a computerized supervision system that shows task completion, time consumption, customer ratings and feedback etc. where employees will be able to do self-evaluation. Similar access can be provided to the management and after evaluation a training session for the low performers can be provided.

5.2. Employee feedback system

A mechanism for employees to provide feedback, grievances and suggestions from their side has to be developed to clearly understand what kind of issues are faced by them. To maintain confidentiality, the feedback system can be designed so that employee identities are revealed only when required, according to the employee's discretion.

5.3. Reduce power distance between managers and employees and promote Sri Lanka is a country falling under high- power distant culture according to Hofstede's Cultural Dimensions. However, most organizations are moving towards a low power distant culture in Sri Lanka due to its effectiveness. This practice will make employees confident, accountable and more engaging in the workplace. Employees will be able to communicate anything freely to the relevant parties which will reduce gaps in communication and possible errors. Studies also show evidence that organizations that follow open culture over a rigid culture have employees with positive attitudes and less stress as it promotes inclusivity.

5.4. Emotional intelligence training program

The program has to include elements such as self-awareness training by including self-reflection and understanding strengths and weaknesses of oneself, self-regulation training that includes learning on handling stress, social skills training that has interpersonal communication techniques a conflict resolution mechanisms and motivation program that promote resilience, growth mindset and goal orientation.

5.5. Performance Recognition

Within the company, recognition programs establish role models that motivate others to pursue success. In order to retain top personnel in today's competitive landscape, it is imperative to demonstrate appreciation through performance recognition. Therefore, establishing a robust

program for performance acknowledgment helps improve the atmosphere at work. Employees feel appreciated and are inspired to perform well when they are recognized for their efforts.

5.6. Work-life balance initiatives

In today's fast-paced workplace, work-life balance is critical since it directly affects employee satisfaction, productivity, and general well-being. Companies may promote a more engaged and motivated workforce, lessen employee burnout, and raise job satisfaction by encouraging a good balance between work and personal obligations. Introducing flexible work schedules, encouraging the use of vacation time, and adopting remote work choices are realistic measures that can assist staff members in effectively balancing their job and personal commitments.

6.0 Conclusion

This study provides empirical evidence that job satisfaction, emotional intelligence, and high performance work practices are positively related to employee performance in the software sector. The findings highlight that these three factors function as significant and mutually reinforcing predictors of job performance. By clarifying the relationships among these variables, the research contributes to the broader theoretical understanding of how individual psychological attributes and organizational practices together shape workplace outcomes. Overall, the study deepens scholarly insight into the determinants of employee performance and offers a foundation for future research examining performance enhancement within knowledge based work environments.

7.0 Limitations and Direction for future research

While the current study was carried out using a quantitative study, it would be more beneficial to perform a study using a qualitative method besides, in which scholars can additionally gain insight about employees' perspectives. Also, researchers can conduct the study by gathering foreign employees and by analyzing and comparing the determinants influencing work performance specifically. As software companies uses hybrid working or remote working future researchers can focus on factors like E-monitoring and other determinants which affects for the performance of the employees.

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Impact of Service Quality Attributes on the Choice of Public Bus Transportation Among Daily Working Commuters in Colombo District, Sri Lanka

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Abstract

Public bus transportation plays a major role in urban mobility in Sri Lanka. Some issues in public transport services have led to high road traffic congestion, increased environmental pollution, and a tendency for commuters to shift to private modes of transportation. The objective of this study is to identify how service quality attributes impact the choice of public bus transportation among daily working commuters in the Colombo district in Sri Lanka. This study used a quantitative method, collecting a sample size of 385 daily working commuters in the Colombo district, Sri Lanka, via a structured questionnaire using the convenience sampling technique. Data was analyzed using statistical analysis, including reliability testing, correlation, and multiple regression. This research employed the SERVQUAL model to evaluate five dimensions of service quality. The study's findings indicate that reliability, responsiveness, assurance, and empathy have a significant impact on the choice of public buses, rather than tangibility. The study highlighting the Sri Lankan public transport context and outcomes of this study provides valuable insight into policymakers and service providers improving public bus services, reducing congestion, and promoting sustainable transport practices in the public bus transport system in Sri Lanka.

Keywords: Daily Working Commuters, Mode Choice, Public Bus Transportation, SERVQUAL Model

1. Introduction

Public transportation is essential to urban infrastructure, especially in fast-growing urban cities such as Colombo, Sri Lanka. Among the various public transport options, buses are the most commonly utilized mode because of their low cost and comprehensive coverage (Ministry of Transport & JICA, 2014). Colombo, with its high concentration of economic and administrative activities, produces a large volume of daily commuter traffic, where public bus services are important in facilitating mobility for working individuals (Fernando et al., 2023). However, public bus services in Colombo face various systemic problems that reduce their efficiency and effectiveness. These issues are overcrowding, irregular scheduling, poor

vehicle maintenance, uncomfortable travel experiences, and unprofessional staff behaviour (Ranawana & Hewage, 2015). These deficiencies have contributed to increasing commuter dissatisfaction, motivating many users to shift towards private or alternative transport modes, such as motorcycles, three-wheelers, and private cars (Sooriyabandara & Hewage, 2018).

This modal shift has significant consequences for urban mobility and sustainability. As a result, there has been a noticeable shift in commuter preferences towards private vehicles, which has resulted in increased traffic congestion, environmental degradation, and a reduced use of public transport options (Ceder, 2020; Kumarage, 2012). Increased private vehicle usage increases carbon emissions, fuel consumption, and increases traffic congestion in the Colombo district. The resulting changes on the road network negatively impact individual productivity as well as the goals of energy efficiency and environmental sustainability (Kumarage, 2012). According to Kumarage (2012), nearly 60% of the road space in Colombo is occupied by private vehicles, even though they account for only a small portion of overall passenger movements.

Previous studies have done research on public transportation in Sri Lanka. But most studies have analysed overall travel behaviour and the travel patterns in the Colombo Metropolitan Region (e.g., Maduwanthi et al., 2015). Some research has examined the service quality of public bus transportation without applying specific service quality attributes such as tangibility, reliability, responsiveness, assurance, and empathy from the SERVQUAL model (Parasuraman et al., 1988; Ranawana & Hewage, 2015). Furthermore, the group of daily working commuters has received limited attention in studies of public bus mode choice in Colombo. Sogbe et al. (2024) identify a lack of empirical, user-focused research on public transportation in South Asian countries, particularly among urban working commuters by analyzing 104 peer-reviewed articles related to transportation. It highlighted that relatively few empirical studies had been done in South Asia countries, and none of them had been done in Sri Lanka. The study recommended future studies to collect primary data from urban regions using service quality frameworks to investigate mode shift behavior among professionals who often avoid public transport due to service-related dissatisfaction. Therefore, while there exists research on public transport mode choice and service quality, there is a lack of recent, structured, and context-specific empirical studies that examine how service quality dimensions affect the choice of public bus transportation, especially in the Colombo District. This study aims to fill this gap by using the SERVQUAL model to evaluate how service quality factors affect the decisions of daily working commuters about public bus transportation. Hence, the

main objective of this study is to identify the impact of service quality attributes on the choice of public bus transportation among daily working commuters in the Colombo district, Sri Lanka where the main research question of the study is: What is the impact of service quality attributes on the choice of public bus transportation among daily working commuters in the Colombo district, Sri Lanka?

This study is significant theoretically as well as practically. This research is theoretically important because it examines the SERVQUAL Model, which includes the service quality dimensions such as tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). It helps to identify how those dimensions impact the choice of public bus users in the Sri Lankan context, especially in the Colombo district. In this study, focusing on daily working commuters in the Colombo district, using the SERVQUAL model to fill the empirical literature and also to provide insights. Practically, this study is important for transport planners, government agencies, and policymakers, by providing recommendations to improve service quality dimensions such as tangibility, reliability, responsiveness, assurance, and empathy. By identifying the factors most affecting the choice of public buses, relevant authorities can take necessary actions to improve the attractiveness of the public bus service and reduce over-dependence on private vehicles. It is contributing to reduced traffic congestion, pollution, and urban stress (Kumarage, 2012; Ministry of Transport & JICA, 2014).

2. Literature Review

2.1.SERVQUAL Model

The SERVQUAL model was developed by Parasuraman (1988), which is one of the most widely applied frameworks for measuring service quality across industries. This offers a structured framework for measuring service quality across different industries, including public transportation (Manikandan & Vanniarajan, 2016). This model examined areas such as finance, health care, education, and transportation (Ali & Rasa, 2015). SERVQUAL Model describes five service quality dimensions such as Tangibility, Reliability, Responsiveness, Assurance, and Empathy. This offers a structured approach to understanding how customers experience the services. (Parasuraman et al., 1988). Although the SERVQUAL model (Parasuraman et al., 1988) is a widely recognized framework for evaluating service quality. But it has raised several challenges when it applies to the public transportation sector. Public

bus transport services are influenced by external variables such as traffic conditions, government regulations, and infrastructure limitations. These factors could not be clearly identified and measured from the SERVQUAL model. But still, this model is versatile and adaptable. For example, Ali and Raza (2015) conducted a study on service quality perception and customer satisfaction in Islamic banks in Pakistan using the modified SERVQUAL model. In transport-related research, Eboli and Mazzulla (2007) used SERVQUAL to identify how service quality attributes affect user satisfaction among Italian bus users. The findings of the study confirmed that interpersonal factors like empathy and responsiveness significantly affect satisfaction, while operational factors such as punctuality remain neutral. Similarly, De Oña et al. (2020) applied service quality measures to understand private vehicle users' perceptions of public transport in Madrid. The study found that cleanliness and staff interaction strongly influenced willingness to use buses. In the Sri Lankan context, there is limited application of the SERVQUAL model to public transport. Herath et al. (2023) used elements of the model to evaluate the service quality of buses in Colombo, but did not fully operationalize all five dimensions in the model. As a result, interpersonal elements such as assurance and empathy remain underexplored in Sri Lankan transport studies.

Therefore, this study adopts SERVQUAL model dimensions such as tangibility, reliability, responsiveness, assurance, and empathy as the independent variables in this study to identify how those attributes impact the choice of public bus transportation. By applying the full model, the research addresses gaps identified in Sri Lankan literature.

2.2.Mode Choice

The choice of public bus transportation is used as the dependent variable, referring to the preference of individuals to choose a mode of transportation for their travel requirements. It is directly linked to the human perspective and human behaviours. The mode choice is influenced by several factors such as safety, travel time, cost, and quality of the service (Buehler, 2011). Researchers study the mode choice from different perspectives. Most of the studies research on mode choice along with customer satisfaction (Jonas de Vos et al., 2021). According to the study conducted by the Ministry of Transport and JAICA, as in the ComTrans Home visit Survey for the western province, around 40% of trips are made by buses and railway. Approximately 38% was made by public modes of transportation over public transportation. (Maduwanthi et al., 2015). Choosing a mode of transportation varies depending

on the purpose of the customer. Due to some challenges facing public bus transportation, such as high travel time, safety concerns, availability etc., leading to an increase in the dissatisfaction of customers. This will encourage them to shift from public transportation to other modes of transport (Kumarage, 2012). In Sri Lanka, Maduwanthi et al. (2015) explored mode choice in the Colombo Metropolitan Region and found that travel cost, convenience, and waiting time were key determinants for mode choice, but the study did not focus only on buses; it included multiple modes of transportation. Similarly, Damsara et al (2021) conducted the analysis on transport mode choices of school children in Colombo district and noted that availability and safety were critical for parents and children when choosing a mode.

2.3.Public Bus Transportation

Public transportation is a significant sector in every country. It plays an important role in urban mobility and remains the most affordable and accessible form of travel for the majority of the population (Ceder, 2020), especially in contexts like Sri Lanka, as a developing country. Colombo district is the main urbanized district in Sri Lanka, where public bus transportation is the most used mode of transportation (Ministry of Transport & JICA, 2014). Also, it is the most dominant mode of transportation, which carries nearly half of the urban commuters (Kumarage,2012). According to Fernando et al. (2023), public buses in Colombo handle the majority of daily passenger trips, but they still face operational challenges such as overcrowding, poor schedule adherence, and vehicle deterioration. These issues contribute to increasing dissatisfaction among commuters (Ranawana & Hewage, 2015).

Previous research in Asia and Africa found that public bus systems frequently face challenges in meeting the growing demands of urban populations. These findings suggest that service quality and safety remain primary issues in low- and middle-income contexts, while high-income countries consider comfort and convenience. While earlier studies emphasised the importance of affordability (Kumarage, 2012), more recent research suggests that commuters now prioritise service reliability and comfort (Herath et al., 2023). This shift in user expectations is due to rising income levels and increased vehicle ownership, which will give more transport options for the users. In contrast to bus transport systems in developed countries, those in developing contexts have less effective regulation, consistent maintenance, and integrated planning (Ceder, 2020).

2.4. Service Quality in Public Bus Transport

A high level of service quality can attract more customers towards the service, and it leads to a high level of retention. Poor service quality encourages customers to move to another mode of transportation (Eboli & Mazzulla, 2007). Several previous studies identified factors affecting user satisfaction, such as cleanliness, reliability, punctuality, and employee behaviour (Ferando et al., 2023), and improving those factors can increase the service quality as well as the ridership levels (Tyrinopoulos & Antoniou, 2008). It was identified that overcrowding, lack of info, longer travel time, harassment, and loud noise as major issues for the bus passengers (Fernando et al, 2023).

In Sri Lanka, some studies highlighted the challenges of public transportation, which is directly connected with the service quality, such as poor maintenance and overcrowding. And the key factors affecting the satisfaction of public bus users as vehicle condition, driver behaviour, and punctuality (Ranawana & Hewage, 2015). The study, which was conducted to identify the factors affecting rejection the public transport, identified how the five dimensions of the SERVQUAL model affect rejection (Gamlath & Siriwardana, 2023). The study, which was conducted to analyse the factors affecting the mode choice of school children (Damsara et al, 2021), found that lower socioeconomic groups rely on public buses. A recent study was conducted by applying the SEVQUAL Model to analyse the mode choice. It identified that reliability and responsiveness are the most affecting dimensions that affect passenger satisfaction (Herath et al, 2023).

3. Methodology

This study follows a deductive research approach, which starts with theory, develops hypotheses by using relevant academic literature, and tests the theory from the hypotheses (Saunders et al., 2019). Therefore, the deductive approach is appropriate for this study to test hypotheses in the established theory of SEVQUAL (Parasuraman et al., 1988). This study uses a quantitative research method as the research choice to measure, analyze, and test relationships between variables using statistical tools.

This approach is commonly used in transport service quality studies, such as Herath et al. (2023), Fernando et al.(2023), and Maduwanthi et al.(2015) in their studies. This study uses a cross-sectional design. Similar studies by Herath et al. (2021), Fernando et al.(2023), and Maduwanthi et al.(2015) have effectively used a cross-sectional design to achieve their

research objectives. This is suitable for collecting data from the sample to achieve the aim of identifying the factors affecting the choice of public buses.

3.1.Data Collection

This study used a quantitative design and was conducted as a cross-sectional study. As primary data, a sample of 385 respondents was collected through a structured online questionnaire using convenience sampling, which was distributed through various social media platforms and email, specifically focusing on daily working commuters who regularly use public bus transportation within the Colombo district. This allows for a wider range of participants than physical surveys. The questionnaire was designed to examine the demographic information and perception related to public bus transportation. For this study, the secondary data were obtained from academic journals, previously published research studies, transportation authorities, digital newspapers, statistical publications, and government reports.

The independent variables as five service quality attributes (tangibility, reliability, responsiveness, assurance, and empathy), and the dependent variable of the choice of public bus transportation was measured in this questionnaire. All the variables are measured using a five-point Likert scale, ranging from strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). The questionnaire consists of three main sections. The first section collected demographic information, including age, gender, employment status, nature of work, and public bus usage. The second section included questions related to the independent variables from the SERVQUAL model, and the third section focused on the dependent variable.

3.2.Data Analysis

The collected data were analyzed using both descriptive and inferential statistics. All statistical analyses were done using the Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics, including percentages, means, and standard deviations, were used to summarize the demographic data of the respondents in the sample. This provides a clear profile of the sample.

The reliability analysis was conducted for each SERVQUAL dimension to ensure the internal consistency of the scale, which is used for data collection, using Cronbach's alpha value. Inferential analysis was conducted to examine the relationships between the independent

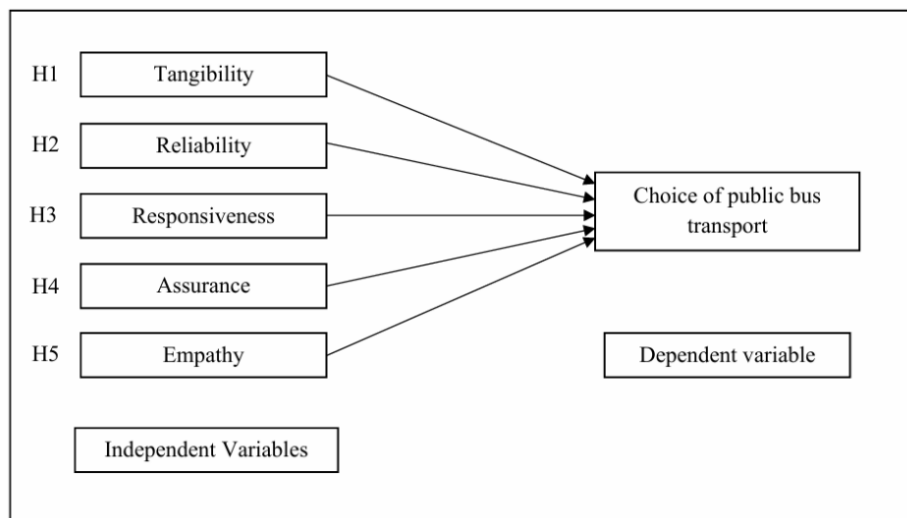
variables and the dependent variable. Correlation analysis is used to identify the connectivity among independent variables and the dependent variable.

This study analyzes the direction of the relationship between each service quality dimension, such as tangibility, reliability, responsiveness, assurance, and empathy, and the choice of public bus transportation. Variables such as travel cost, Income level, Commute distance and Alternative mode availability were kept as control factors. Multiple regression analysis was employed to test the hypotheses and to identify the extent to which each service quality attribute significantly impacted the choice of public bus transportation. Regression analysis is used to analyze the relationship between independent variables and the dependent variable. This was conducted to test the hypothesis and identify which service quality dimension significantly affects the choice of public bus transportation. These data analysis strategies are commonly used in existing studies in the transportation area that use SERVQUAL dimensions (Herath et al., 2023).

3.3. Conceptual Framework

The conceptual diagram helps to identify the relationship between variables and their visual representation of the theoretical structure of the study (Kerlinger & Lee, 2000). The theoretical framework of this study (model) is already established, the “SERVQUAL Model” developed by Parasuraman et al. (1988). The five quality dimensions are considered as independent variables, such as tangibility, reliability, responsiveness, assurance, and empathy. The dependent variable is the choice of public bus transportation.

Figure 1 Conceptual Framework



The following hypotheses are formulated to examine the relationship between service quality dimensions and the choice of public bus transportation. The hypotheses are developed based on service quality dimensions (Parasuraman et al. 1988).

1. H1: There is a significant relationship between tangibility and the choice of public bus transportation
2. H2: There is a significant relationship between reliability and the choice of public bus transportation
3. H3: There is a significant relationship between responsiveness and the choice of public bus transportation
4. H4: There is a significant relationship between assurance and the choice of public bus transportation
5. H5: There is a significant relationship between empathy and the choice of public bus transportation

4. Results and Discussion

4.1.Demographic Analysis

According to the demographic analysis the gender is equally proportionate between males and females, where 57.03% female candidates participated in the study, while 42.97% of males participated on the other hand. The majority of 41.67% respondents represent the age range of 25-31 years. To identify the nature of working onsite and public bus usage frequency, it is categorized as daily, weekly, occasionally, and rarely. 95.83% of respondents work daily, and 93.49% of respondents use public bus transportation regularly. According to the overall statistics, the majority of the respondents are daily working commuters who regularly use public bus transportation in the Colombo district.

95.83% of respondents work daily, and 93.49% of respondents use public bus transportation regularly. According to the reliability test, the results of Cronbach's values are within the range of 0.598 to 0.820 across all variables. The results ensure that the measurement scales used in this study are reliable and fit the variables.

4.2.Confirmatory Factor Analysis for SERVQUAL Model

Confirmatory Factor Analysis (CFA) was conducted to validate the measurement model of the SERVQUAL framework and to confirm whether the observed variables adequately represent

the five latent service quality dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy. As SERVQUAL is a well-established theoretical model, CFA was employed to confirm construct validity rather than to explore new factor structures (Parasuraman et al., 1988; Saunders et al., 2019).

The CFA results indicate that all measurement items loaded satisfactorily onto their respective constructs. Standardized factor loadings ranged from 0.56 to 0.84, exceeding the recommended minimum threshold of 0.50, thereby confirming convergent validity of the measurement model (Hair et al., 2019). The highest loadings were observed for responsiveness and empathy items, reflecting the strong relevance of interpersonal service attributes in the public bus transport context of the Colombo district.

Internal consistency reliability was further supported through Composite Reliability (CR) values, which ranged between 0.68 and 0.86, exceeding the acceptable threshold of 0.60 for applied social science research. Additionally, the Average Variance Extracted (AVE) values ranged from 0.42 to 0.61. Although the AVE value for tangibility was marginally below the recommended threshold of 0.50, it was retained in the model due to acceptable CR values and strong theoretical justification, which is consistent with prior transport service quality studies (Eboli & Mazzulla, 2007; Randheer et al., 2011).

Discriminant validity was assessed using inter-construct correlations. All correlation coefficients among the SERVQUAL dimensions were below 0.80, indicating that each construct is empirically distinct and measures a unique aspect of service quality (Fornell & Larcker, 1981). Moderate correlations were observed between responsiveness, assurance, and empathy, which is theoretically expected in public transport services where staff behaviour, safety perceptions, and interpersonal treatment are closely interrelated (Fernando et al., 2023; Sooriyabandara & Hewage, 2018).

Overall, the CFA results confirm that the SERVQUAL measurement model demonstrates acceptable reliability and construct validity in the Sri Lankan public bus transport context. The validated factor structure supports the use of tangibility, reliability, responsiveness, assurance, and empathy as independent variables in subsequent correlation and multiple regression analyses. Establishing a valid measurement model strengthens the robustness of the empirical findings and ensures that the observed relationships between service quality attributes and the choice of public bus transportation are theoretically grounded and statistically sound.

4.3. Correlation Analysis

The correlation analyses show that all the independent variables of the study, as service quality attributes, have a positive correlation with the dependent variable of the study, as mode choice. The tangibility (+0.308) has a moderate positive correlation with the choice of public bus transport. Reliability (+0.472) also plays a moderately considerable role in the choice of public bus transportation in the Colombo district. The responsiveness (+0.591) indicating that there is a strong positive correlation between responsiveness and the choice of public bus transport. Assurance (+0.512) also has a strong positive correlation with the choice of public bus transport.

Empathy is +0.578, which indicates that there is a strong positive correlation between empathy and the choice of public bus transport. This analysis shows that all service quality attributes positively correlated at the 0.01 level of significance.

According to the statistics, responsiveness is the strongest variable of this study. This is found in some qualitative studies in the Sri Lankan context. Sooriyabandara and Hewage (2018) found that staff responsiveness and courtesy consistently discouraged the bus usage of female passengers. Fernando et al. (2023) also highlight the importance of driver and conductor behaviour, while passengers frequently complain about rudeness, harassment, and lack of assistance. In contrast, a global study of Eboli and Mazzulla (2007) lists staff courtesy and helpfulness among influential factors, but not as the strongest factor of passenger satisfaction. This clearly shows the contextual differences. Based on the findings of this study, empathy also shows a strong relationship with the mode choice of daily working commuters. Herath and Sivakumar (2022) mainly focus on time and cost variables, while Fernando et al. (2023) focus on safety and comfort while giving limited attention to individualized service. Eboli and Mazzulla (2007) found that empathy significantly enhanced the satisfaction of the elderly and students in their research. When it comes to reliability, previous studies in the Sri Lankan context, reliability is suggested in several studies. Assurance also has a positive correlation with the choice of public bus transport. In the Sri Lankan context, Fernando et al. (2023) identified that the main factors to reject bus usage are safety issues such as unsafe driving, overcrowding, and harassment. Herath and Sivakumar (2022) also identify safety-related factors that impact the perceptions of the level of service among passengers. In this study, assurance showed a strong positive correlation, which indicates that daily working commuters highly consider secure and respected during transportation. Some global studies also highlight that safety is important in public transportation. For example, Randheer, Al-Motawa, and

Vijay (2011) emphasize that assurance and safety are core variables of service quality perceptions in the Middle Eastern context. In this study, tangibility shows a weak correlation with the dependent variable of the choice of public bus transportation among daily working commuters in the Colombo district. Several studies identified the importance of tangibility for passenger satisfaction. Eboli and Mazzulla (2007) include cleanliness and vehicle condition as influential factors, while Fernando et al. (2023) found that poorly maintained buses and terminals in Sri Lanka lead to the dissatisfaction of passengers, which directly impacts the choice of passengers among transport modes. However, tangibility is important for long-term success and for attracting passengers, such as those who prefer private vehicles over public transportation (De Oña et al., 2020).

4.4. Multiple Regression Analysis

Multiple regression analysis examined how independent variables (service quality attributes – tangibility, reliability, responsiveness, assurance, and empathy) impact on the dependent variable (choice of public bus transport). The model is created by using the ANOVA table, which explains the significance of the model. This tests whether the overall model, including five variables, is significant.

$$\text{Mode choice} = \beta_1 \text{Tangibility} + \beta_2 \text{Reliability} + \beta_3 \text{Responsiveness} + \beta_4 \text{Assurance} + \beta_5 \text{empathy} + \beta_0$$

According to the beta values (β) in the coefficient table, the created model is as follows,

$$\text{Mode choice} = 0.044(\beta_1)X_1 + 0.156(\beta_2)X_2 + 0.279(\beta_3)X_3 + 0.132(\beta_4)X_4 + 0.320(\beta_5) + 0.125(\beta_0) \quad (1)$$

As the P value (Significance value) 0.001 is less than the alpha value of 0.05, at 95% confidence, there is a significance in the model created to measure service quality attributes and mode choice.

Table 1-ANOVA Table

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	87.770	5	17.554	75.480	<.001 ^b
	Residual	87.909	378	.233		
	Total	175.680	383			

The regression sum of squares value of 87.770 represents the total amount of variation in the choice of public bus transport (DV) that is explained by the predictors in the model. The residual sum of squares value of 87.909 represents the amount of variation that remains unexplained by the predictors. This shows that nearly half of the variations are explained by the model.

Table 2- Coefficient Table

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.125	.160		.782	.435
	IV1 _Tangibility	.044	.044	.042	1.003	.316
	IV2 _Reliability	.156	.052	.144	3.031	.003
	IV3 _Responsiveness	.279	.046	.295	6.126	<.001
	IV4 _Assurance	.132	.050	.126	2.630	.009
	IV5 _Empathy	.320	.049	.311	6.549	<.001

According to significant values, P value (Sig.) 0.316 is higher than the alpha value of 0.05. Therefore, at 95% confidence, there is no significant impact on the choice of public bus transportation from tangibility. P-value for other variables is less than 0.05. Therefore, reliability (0.003), responsiveness (0.001), assurance (0.009), and empathy (0.001) have a significant impact on the choice of public bus transportation among daily working commuters in the Colombo district, Sri Lanka. Reliability significantly impacts the commuters' choice by emphasizing the importance of fixed schedules, service coverage, information availability, and frequency of bus service. Responsiveness significantly impacts the commuters' choice by emphasizing the importance of the availability of buses and bus stops. Assurance emphasizes the importance of appropriate speed, a safe environment, and passenger safety. Empathy significantly impacts the commuters' choice by indicating the importance of the supportiveness of the staff towards the passengers.

Table 3 ANOVA Table

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.707 ^a	.500	.493	.48225

The R value (correlation coefficient) is 0.707 and suggests, overall, there is a strong positive relationship between the independent variables and the dependent variable. This indicates that the model explains a significant portion of the choice of public bus transportation across service quality attributes.

The R Square value (Coefficient of Determination) is 0.500. It interprets tangibility, reliability, responsiveness, assurance, and empathy (service quality attributes) together explain 50% of variations in the choice of public bus transport.

Adjusted R-square value is 0.493. Only 49.3% of the variable as the choice of public bus transportation can be explained by independent variables such as tangibility, reliability, responsiveness, assurance, and empathy. 50.07% of the choice of public bus transportation will depend on some other factors which is not considered in this model. This indicates that nearly half of the variance in the dependent variable is explained by the predictors. Previous public transport-related studies also commonly report a mid-range of coefficient values for service quality data. A recent survey of public transport users' travel experiences reported an adjusted R-squared value of 0.592 in Australia (Yang et al., 2023), a developed country. Additionally, a study on urban public transport services in Kenya, a developing country, reported an R-squared value of 0.349 for bus frequency (Githui et al., 2010). Accordingly, the adjusted R square value close to 0.50 is adequate for cross-sectional research in the transport context.

5. Conclusion

The main research question of the study is: what is the impact of service quality attributes on the choice of public bus transportation among daily working commuters in Colombo district, Sri Lanka. This study is a quantitative study which is conducted as a cross-sectional study. The findings of this study fulfil the main objective of this study, as to identify the impact of service quality attributes on the choice of public bus transportation among daily working commuters in Colombo district, Sri Lanka. As per the results reliability, responsiveness, assurance and empathy significantly impact the choice of public bus transportation among daily working commuters in Colombo district Sri Lanka, while tangibility does not significantly impact the choice of public bus transportation. Based on statistics, the finding of the study indicates that the service quality attributes of the SERVQUAL model significantly impact the choice of public bus transportation among daily working commuters in Colombo district, Sri Lanka. Reliability significantly impacts the commuters' choice by emphasizing the importance of fixed schedules, service coverage, information availability, and frequency of

bus service. Responsiveness significantly impacts the commuters' choice by emphasizing the importance of the availability of buses and bus stops. Assurance emphasizes the importance of appropriate speed, a safe environment, and passenger safety. Empathy significantly impacts the commuters' choice by indicating the importance of the supportiveness of the staff towards the passengers. Overall, all findings indicate that the working commuters in the Colombo district are considering safety, respectfulness, consistency, and efficiency when choosing public bus transportation.

The main limitation of this study is the geographical limitation. The study is limited to the Colombo district and may not be generalizable to other regions in Sri Lanka. The research outcomes may not directly apply to other regions without further study. Another limitation is that this study focuses on daily working commuters who regularly use public buses and does not consider other categories of bus users, such as students and travelers. This study also does not consider other public transportation modes. Further, data was collected based on a self-reported questionnaire, which may lead to biases when responding. And reliance on the quantitative method is another limitation. It does not capture the real experience of the bus user using a Likert scale survey. The research study was conducted by using a convenience sampling technique within a limited time frame, which restricted data collection.

Based on the findings of this study, it is suggested to enhance the service reliability, responsiveness, assurance, and empathy of public bus transportation, which significantly impact the choice of public bus transportation. By introducing real-time information for the passengers and introducing a real-time ticketing system, the reliability of the bus service. The staff's responsiveness and empathy can be enhanced by conducting training and awareness programs that focus on customer service and safety. The assurance of public bus service can be enhanced by maintaining appropriate speeds and a safe environment and providing adequate safety for passengers during nighttime travel.

In terms of future research, the study should be conducted with a broad sample of passengers (students, elderly, and occasional commuters) who use public buses for other reasons across different urban areas in Sri Lanka. Additionally, the study can be expanded by applying a longitudinal approach to identifying commuters' intentions over a specified period. Furthermore, this study can be conducted using qualitative methods, such as interviews with bus drivers, conductors, and passengers, to collect real-world information.

This study contributes to the public transportation sector by providing insights that there is a significant impact on the choice of public bus transportation from service quality attributes.

By using a quantitative research method and considering an unresearched sample of daily working commuters, this study expands on previous studies and strengthens the understanding of the relationship between service quality attributes and the mode choice of public buses. Also, address a noticeable gap in literature. Further, apply all five dimensions of the SERVQUAL Model to the public bus transport sector. Practically, this study provides valuable insights for policy makers with data-driven insights by recommending to prioritize reliability, assurance, responsiveness & empathy of the public bus transport service. Further, this study contributes to the United Nations Sustainable Development Goals (SDGs). This study aligns with the United Nations Sustainable Development Goal (SDGs) 11: “Sustainable Cities and Communities,” and SDG 13: “Climate Action” (United Nations, 2015). This study provides actionable insights to improve urban public bus transport systems. By identifying and analyzing the key service quality attributes that affect the choice of public bus transportation in the Colombo District. This study directly contributes to Target 11.2 of “safe, affordable, accessible, and sustainable transport systems for all” (United Nations, 2015). And also, when increasing public transport usage, it will reduce the reliance on private vehicles.

It helps to decrease traffic congestion, fuel consumption, and carbon emissions. This is aligned with target 13.2 of the SDGs. By focusing on improving service quality, this study supports the development of environmentally friendly and sustainable transportation practices in Sri Lanka’s urban areas. This study emphasizes the significance of service quality attributes in public transportation.

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Examining the Impact of Platform Attributes on Online Purchase Intention: A Quantitative Study of B2B Service Adoption among SME's in Kandy District

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Abstract

The rapid growth of digital platforms has significantly transformed business-to-business (B2B) transactions, encouraging small and medium-sized enterprises (SMEs) to adopt online procurement solutions. However, B2B e-commerce adoption among SMEs in Sri Lanka remains uneven, particularly due to concerns related to trust, platform performance, usability, and regulatory assurance. Grounded in the Theory of Planned Behavior, this study examines the impact of platform attribute customer trust in online transactions, platform reliability, usability of e-commerce platforms, and regulatory compliance factors, on B2B online purchase intention, with customer attitude introduced as a mediating variable.

A quantitative research design was employed, using survey data collected from 210 SME decision-makers in the Kandy District, including owners, managers, and procurement officers. Data were analyzed using regression-based mediation analysis to assess both direct and indirect relationships. The findings reveal that all platform attributes have a significant positive effect on B2B online purchase intention. Additionally, platform attributes significantly influence customer attitude, which in turn exerts a strong positive effect on purchase intention. The mediation results confirm that customer attitude partially mediates the relationship between platform attributes and B2B online purchase intention.

The study contributes theoretically by extending TPB to the B2B e-commerce context in a developing economy and offers practical insights for policymakers and platform providers to enhance SME participation through secure, reliable, user-friendly, and legally compliant digital platforms.

Keywords: *B2B Purchase Intention, Customer Trust, E-commerce Usability, Platform Reliability, SME*

1. Introduction

Globally, SMEs support approximately 90% of businesses & 50% of employment (World Bank SME, n.d.) making them an essential economic force. In Sri Lanka, SMEs give 52% of the GDP and offer employment for approximately 45% of the labor force (Development, 2022). With the increase in e-commerce, a lot of SMEs have started implementing business-to-business (B2B) online services to improve procurement and market reach, and minimize costs. The implementation of digital platforms for B2B transactions is increasing consistently, with globalized (B2B) e-commerce transactions predicted to reach \$20.9 trillion by 2027 (Markets, 2020). Despite the expansion, SMEs face crucial challenges in transitioning to digital procurement in Kandy. A primary concern impacting B2B online purchasing intention is trust in online transactions. Many SMEs are discouraged from adopting e-commerce due to increasing concerns about “cyber threats, fraud & data breaches”, which are becoming more frequent in digital transactions.

Consistent system performance, error-free operations impact users' willingness to engage in B2B e-commerce platforms. Platform reliability is essential for promoting business trust for online transactions (Quality Analysis of SME Websites Based on Third-Party Platform, 2010). Perceived reliability of an online platform has an important effect on trust and transactional continuity in the SMEs context. Digital literacy and regulatory support affect the implementation rate of B2B e-commerce, as SMEs need sufficient knowledge and self-assurance to direct the digital marketplace safely (unctad, 2022).

There's a research gap concerning the components examining the impact of SMEs' purchasing intention for B2B online services, Kandy. Even though worldwide studies point out the importance of “trust, platform reliability & digital infrastructure”, restricted research has studied how those variables affect SMEs in the Kandy District. This research aims to bridge gap by examining the key variables impacting the purchasing intention of SMEs in the Kandy district when using B2B online services.

1.1.Problem Statement

Business-to-business means the trade happens between companies instead of organizations and consumers. B2B engagements happen in the supply chain process when an organization needs to purchase primary resources from additional companies to use for the production process. As per the Grand View Research report, the B2B E-commerce industry is predicted to advance at a rate of 18.2% yearly from 2024 to 2030 (Grand View Research, n.d.). Ideally, the development of digitalization of organizational operations has considerably navigated (B2B) deals, providing cost-efficient, effective, and flexible solutions for SMEs.

However, the reality in the Sri Lankan context shows a slower framework of B2B E-commerce adoption within SMEs. The implementation of B2B online services has advanced particularly globally, contributing to cost reductions, advanced accessibility, and expanded market presence. However, regardless of the importance, the implementation of B2B online services of SMEs in Sri Lanka remains narrow due to some aspects affecting purchase intention (AU Amaradiwakara, 2016). As per the (Ministry of Industry and Entrepreneurship Development, n.d.) SMEs are the main pillar of the Sri Lankan marketplace, generating more than 75% of organizations and providing particularly to employment and Gross Domestic Product. So the businesses significantly operate with a lack of financial as well as technological factors, accounting for their higher caution while operating in digital transactions. Moreover, some large companies with comprehensive IT implementations and risk barriers would affect the purchase decisions on online services (Musyaffi, 2024). One key aspect that affects SMEs' purchasing intention regarding B2B online services is customer trust in online transactions. SMEs are sometimes reluctant to use digital services for transactions because of fraud, threats in cybersecurity, and supplier trustworthiness (Gefen, 2002).

Platform reliability is continuously an important factor in the context of B2B e-commerce adoption among SMEs in Kandy, as business enterprises must depend on reliable uptime, secure systems & seamless functionality to ensure effortless transactions. Since they increase perceived risk & operational uncertainty, unreliable systems prevent customers from making purchases. The usability of the E-commerce platform affects purchasing intention. When online service platforms are not user-friendly, have lower customer support, or have some costs, SMEs might prefer traditional physical transactions over online purchases (M Choshin, 2017). Regulatory policies, compliance facilities, and tax

policies might both facilitate or hinder the adoption and purchase intention of B2B online services by SMEs.

The consequence of these issues is that SMEs in Kandy District are not fully transformed with the benefits of online transformations, which control their market strength, and support to country's digitalized economic goals. By focusing on these issues, there is a significant need to examine the key aspects impacting the online purchase intention of SMEs. In the Kandy District. This study's findings will be applied to the current efforts to navigate a higher reliable digitalized organization environment for SMEs in Sri Lanka. So, this study aims to fill the gap while "examining the impact of platform attributes on online purchase intention: a quantitative study of B2B online service adoption among SMEs in Kandy, Sri Lanka".

1.2.Research Question/s

Main Research Question

What is the impact of platform attributes on B2B online purchase intentions among SMEs in Kandy?

Specific Research Question(s)

1. What is the impact of customer trust in online transactions on SMEs' purchasing intention in B2B online services?
2. What is the impact of platform reliability in B2B transactions on SMEs' purchasing intention in B2B online services?
3. What is the impact of the usability of E-commerce platforms on SMEs' purchasing intention in B2B online services?
4. What is the impact of Regulatory Compliance Factors on SMEs' purchasing intention in B2B online services?
5. What is the impact of Customers' Attitude on the relationship between Platform Attributes and Purchase Intension?

1.3.Research Objective/s

Main Research Objective

To identify the impact of platform attributes on B2B online purchase intentions among SMEs in Kandy.

Specific Research Objective(s)

1. To identify the impact of customer trust in online transactions on SMEs' purchasing intention in B2B online services.
2. To identify the impact of platform reliability in B2B transactions on SMEs' purchasing intention in B2B online services.
3. To identify the impact of the usability of E-commerce platforms on SMEs' purchasing intention in B2B online services.
4. To identify the impact of Regulatory Compliance Factors on SMEs' purchasing intention in B2B online services.
5. To identify the impact of Customers' Attitude on the relationship between Platform Attributes and Purchase Intension

2. Literature Review

2.1. Introduction

In developing economies like Sri Lanka, SMEs are credited for approximately 75% of the entire organizations & contribute to more than half of the GDP (Ranaweera, 2024). Despite its importance, a lot of SMEs are still unwilling to utilize B2B e-commerce as they have concerns about platform reliability and transaction security. Previous research has identified factors: customer trust, platform reliability, usability of e-commerce, and regulatory compliance as the main determinants of online purchasing intention (Handoyo, 2024). A buyer's confidence in the dependability and honesty of the e-commerce systems is a broad definition of trust in online transactions. Stronger purchase intentions have consistently been linked with greater levels of trust. For example, a single meta-analysis reveals that trust "significantly influences consumers' e-commerce purchasing decisions (Handoyo, 2024).

Platform reliability (consistent performance & security guarantees) increases adoption. Customers are more likely to adopt platforms that provide reliable service. The interface usability is also important. Buyer confidence is enhanced by a user-friendly design and smooth navigation. Intuitive platforms motivate purchase intention by pointing out the fact that user-friendliness and credibility impact digitalized transaction intent. Intention is influenced by regulatory & compliance factors. In the absence of legal safeguards or data security, buyers may be suspicious of online B2B transactions. Solid e-commerce regulations, consumer protection laws & secure payment standards build client trust, prevent fraud & promote e-commerce adoption (Bin Zhu, 2023). Larger order values and multiple decision makers are

frequent in B2B transactions, and this enhances the impact of customer trust, platform reliability, usability, and compliance on purchasing intention.

2.2. Theoretical Foundation: Theory of Planned Behavior (TPB)

Theory of Planned Behavior (TPB), introduced by Ajzen (1991), is used to anticipate and evaluate human intention, especially behavior-driven aspects. As per the TPB, behavioral intention is impacted through three core aspects: attitude towards the behavior, subjective norms, and perceived behavioral control. This theory is used in the areas of technological adoption, customer behavior, and e-commerce research. In the B2B online purchase intention of SME settings, TPB gives a significant idea of which decision-making behaviors can be interpreted. Attitude means SME decision-makers measure the online purchasing, on its advantages, effectiveness, or trustworthiness. For example, if SME managers feel that online B2B transactions provide cost-effectiveness and convenience, managers' attitude is more favorable (Ajzen, 1991). Subjective norms related to socially driven expectations from competitors, suppliers, impact the SME's decision to utilize B2B online services, where online transformation is still developing, organizations use company leaders or government initiatives, referring to these norms might importantly affect behavior (Ranaweera, 2024).

Perceived behavioral control shows the decision-makers' idea of their intention to perform the behavior, knowing the necessary technological aspects, accessing an efficient internet, and legal regulations to perform online transactions securely. This factor navigates platform usability, trust, and regulatory compliance. When SMEs show the capability of online systems management and trust the platforms of B2B, they are more likely to create better purchase intentions (Gefen, 2002).

2.3. Small and Medium Enterprises SMEs in Sri Lanka: Perspectives

SME refers, businesses that include a lower number of staff, materials, and earnings, at a lower diverse businesses. SMEs include some employees of a minimum of 300 people, and their earnings might not be more than 750 million, in Sri Lanka (SME Definition, n.d.). Based on the source (Statistics, 2025), Kandy District holds the top five highest ranks in involvement in the SME. Employment chances are a vital effort of SMEs in Sri Lanka. Because of emergence, the SME industry has become increasingly important for the Sri Lankan market, job opportunity recovery and the Sri Lankan market system (Kulasinghe, 2020). The importance of SMEs goes beyond employment & support to GDP. SME motivates equitable income

distribution, innovation, and helps local entrepreneurship in both urban and rural regions (M.P. Roshan Rassool, 2019). SMEs demonstrated greater resilience and agility than larger businesses throughout economic uncertainty.

Despite their economic importance, Sri Lanka's SMEs face barriers to growth, especially in the digital transformation sector. Limited access to investment, weakened ICT infrastructure, and an inadequate level of digital literacy, SMEs keep implementing technology at a slow pace. Many SMEs discover it challenging to get involved in online B2B platforms or incorporate digital payment systems, which prevents their ability to scalability and access new markets. The transition from manual to digital operations is still slow in Kandy, where a significant proportion of SMEs are involved in traditional sectors like trade, manufacturing & agriculture (E.D.M.A.A Goonawardena, 2023). The Sri Lankan government has begun policy initiatives focused on SME empowerment to deal with these problems. Strategic goals consisting of increasing access to investment, markets & encouraging innovation using digitization are all part of this National Policy Framework for SME growth & development. International development partners, the Central Bank of Sri Lanka & the International Finance Corporation (IFC) have initiatives to promote digital payments, enhance financial literacy & B2B e-commerce among SMEs.

2.4. B2B E-commerce Adaptation on SMEs: Sri Lankan Perspectives

E-commerce is the products and services assets sold on online systems (Mesenbourg, 2001). An E-commerce operation is completed when, buyer and seller both agree on the fair value. E-commerce can be broken down into 4 relevant terms, and B2B is one of them. B2B stands for both merchant and customer businesses (N Janom, 2009). The expansion of B2B E-commerce in Sri Lanka has been increasing due to advancements in online infrastructure. Globally, B2B E-commerce is predicted to show significant improvement, with the market anticipated to reach 33.33 trillion by 2030. E-commerce refers to the scale for the organization's expansion. The E-commerce sector has showcased a significant advancement in recent years in Sri Lanka. The E-commerce expanded by 34% for the year in 2018 (DY Govinnage, 2019). Based on the report by the Commonwealth (2020), E-commerce has critically expanded at a certain level, and nevertheless of the advancements in IT infrastructure and policies in Sri Lanka being steady, most businesses may not implement E-commerce. SMEs in the Sri Lankan market only apply lower-level E-commerce activities; online browsing and emails (Arawwawala, 2017).

The growth of mobile phones & internet connectivity has an important component for encouraging B2B e-commerce in Sri Lanka, providing SMEs in cities like Kandy. However, the successful digital infrastructure usage alone does not guarantee success. A key variable impacting SMEs' involvement in B2B online platforms remains trust. Many SMEs express worries regarding online payment security, trading partner authenticity & cybersecurity (Arawwawala, 2017). Meaningful adoption continues to be restricted by SME owners & employees with inadequate levels of technical proficiency & digital literacy. Many SMEs are unaware of how they can leverage the B2B platform to enhance cost & process efficiency. The research found that the lack of proper training and trust in the platform's reliability & usability results in low adoption (Ranaweera, 2024). Regardless of the accessibility of e-commerce platforms, SMEs frequently face issues with digital payment systems, which include high service costs, late transactions & incompatibilities with banking systems (Weerasinghe, 2022).

2.5. B2B Online Purchase Intention

B2B online purchase intention has taken a significant academic interest in recent years, as digital platforms' influence on the evolution of international trade practices. This means an organization's possibility to engage in purchasing products or services on online-based systems. Like Business-to-Consumer exchanges, B2B purchases are characterized by higher complexities and engagement of many decision-makers. Purchase intention, a key concept in consumer intention, is widely known as an individual's or business's mindful strategy (Ajzen, 1991). B2B e-commerce, purchase intention is aligned by both technological dimensions and interpersonal trust, illustrating how online and rational aspects are connected in business buying decisions (AYL Chong, 2017). Technology Acceptance Model (TAM), emphasized by Davis (1989), suggests a foundational context in evaluating online purchase behavior, that perceived utility and usability impact technology adoption and purchase intention. Venkatesh & Davis (2000) found that when buyers perceive digitalised methods as both efficient and user-friendly, their tendency to use platforms for procurement advances significantly. Trust, an important aspect of B2B e-commerce, is in online transactions by minimizing perceived risks and promoting supplier confidence (D Gefen, 2003). Website effectiveness, reliability, appearance, data depth, and ease of navigation has acts as a vital role in creating better purchase intentions, as it impacts both usability and credibility (L Zhou, 2007). Security and privacy aspects, information protection, and safe payment systems also influence B2B online purchase

decisions. Data protection and identity verification systems minimize transactional challenges (C Ranganathan, 2002).

Real-time product updates and reliable item descriptions are effective for SMEs when making procurement decisions, as they minimize uncertainty and support effective supply chain management. In the Sri Lankan context, in the Kandy District, SMEs face issues like limited online infrastructure, low e-commerce literacy, and an extent of distrust of internet transactions (KPP Sandareka, 2020). Regardless of these issues, there's developing recognition of the value that B2B online systems can provide SMEs with cost effectiveness, organizational reach, and operational reliability.

2.5.1. Customer Trust in Online Transactions on SMEs' Purchase Intention

Customer trust plays a critical role in aligning B2B digitalized services purchasing intentions within SMEs. Trust in digital transactions is a relevant area of following E-commerce because it influences the behavior of businesses to enhance online transactions (D Gefen, 2003). In the SMEs, trust in customers is vital because there's an advanced level of challenges with transactions; cybersecurity, data violations, and scams (DJ Kim, 2008). The aim of trust in online transactions in the B2B is contained in two parts: institutional trust and interpersonal trust (Pavlou & Gefen, 2004). Institutional trust relies on the reliability of E-commerce settings, safe payment methods, and legal policies that secure both buyers and sellers. Interpersonal trust follows a connection from earlier business, credibility, and clear communication (RM Morgan, 1994). Factors affecting customer trust in online transactions: website security and credibility attain a relationship in online purchasing intentions, when they get a platform to be secure, integrity, and comfortable with data protection settings (C Flavián, 2006). Good customer perceptions, rates, and confirmed feedback improved SMEs to rely on purchase intentions; negative reviews demotivate transactions (Jarvenpaa et al., 2000). Purchasing intentions depend on the advantages and issues connected with online transactions. Trust in online settings, seamless usability, secure payment settings, and regulatory policies improve SMEs' encouragement in creating online purchases. B2B marketplaces apply methods to improve interpersonal & institutional trust. Several platforms give buyer protection features (insurance or money-back guarantees), if the transaction goes wrong, provide back refund. Such features are shown to create a safe environment & increase trust.

2.5.2. Platform Reliability on SMEs' Purchase Intention

Platform reliability, which includes both technical strength and the consumer's perception, is commonly recognized as an important factor that determines the online purchase intention. Ensuring reliable digital platforms is important for resolving trust barriers in the system, particularly in Kandy, a district that is seeing a growth in e-commerce activity. Sri Lanka SME's adoption intentions are affected by their significant amount of concern about perceived risk & trust in e-commerce. Increasing platform reliability may address these challenges in emerging market scenarios. Researchers globally describe platform system quality as a measurement of technical performance (Lintong Han, 2023). System reliability (which includes 99.9% quick response times & secured transactions) has, in reality, been logically connected with higher user trust & tendency to make purchases online, the user's desire to use an online system is increased significantly when they have trust in the system's credibility. It shows that enterprises or consumers are more likely to use a platform when it is reliable (Robert Greenberg, 2012).

Platform reliability consists of consistent performance & availability. Slow load times or system failures destroy trust. System volatility or slow response (poor reliability) enhances search spending & generates bad experiences, impacting consumer perceptions of a platform's value (Han, Ma, Addo, Liao, & Fang, 2023). Since even several minutes of downtime could result in lost sales & unhappy customers. Security & data protection features are equally important. Recent studies show that strong information integrity & confidentiality protection greatly improve consumers' confidence and trustworthiness (N Singh, 2024).

Factors such as on-time customer service, consistent vendor performance & predictable delivery, all from the aspect of perceived reliability. It's closely associated with trust; consumers believe that an enterprise partner will keep promises & solve issues. From this perspective, an SME buyer's trust in an online platform is enhanced because they trust the platform frequently offers accurate information, quick responses & support. This is confirmed by empirical research, which reveals that customers' opinions of the quality of online services are positively influenced by system reliability & service responsiveness (Irfan et al., 2024). Some studies show how reliability influences purchase intention to make purchases in an e-commerce context. High system quality, including reliability, is an important variable that impacts user satisfaction & purchase intention.

2.5.3. Usability of E-commerce Platforms on SMEs' Purchase Intention

Perceived usability, which can be defined as ease of use, clear interface design & intuitive navigation. Perceived usefulness and, therefore, adoption intention are significantly affected by ease of use in classic models that include the Technology Acceptance Model (TAM) (Davis, 1989). A joint SME study states that when technology is “perceived as user-friendly, SMEs are more willing to use it,” because minimal training is necessary (Indiani, 2025). Consequently, it has been noted that mobile compatibility & optimized website usability greatly improve customer satisfaction & sales conversion. This shows that positive user experience has a connection with responsive mobile design, simple information architecture & simple navigation.

Empirical research relates adoption intentions to usability variables within TAM/UTAUT frameworks. Perceived ease of use (PEOU) exceeds perceived usefulness (PU), that impacts behavioral intention to adopt e-commerce, as shown by TAM-based research performed among Indonesian SMEs (LT Putri, 2023). According to UTAUT-based research, SMEs’ adoption of e-commerce is anticipated by effort expectancy or simplicity of use; the ease of navigating online platform was discovered to serve as an important variable impacting adoption intention in a 2024 survey of SMEs in Sri Lanka (Ranaweera I.,2024).

The conditions of provision of facilities at UTAUT – namely the availability of technical infrastructure & support – further emphasize the possibility of technological use. Stable broadband and mobile interface connections serve as crucial variables that make it feasible. Advances in website performance & optimization for mobile devices have shown to increase consumer happiness & conversion rates in Indonesian e-commerce firms (Nawir & Hendrawan, 2024).

SMEs suffer from unique problems with usability. They frequently do not have sufficient capital & IT professionals, which results in difficult-to-design systems expensive to purchase. Usability or ease of use is required for SMEs that “often lack the necessary resources and technical expertise” for operating difficult e-commerce systems. Trust is a problem that impacts usability. Even though poor navigation or decreased trust, an effortless checkout of privacy information supports confidence.

2.5.4. Regulatory Compliance Framework for Digital Trade in Sri Lanka on SMEs'

Purchase Intention

E-contracts, digital documents & e-signatures are officially accepted by the Electronic Transactions Act (No. 19 of 2006, as amended) along with associated statutes (Payment & Settlement System Act 2005, Payment Devices Frauds Act 2006 & Computer Crimes Act 2007). These laws need to improve trust and confidence in business transactions using electronic means, following the ICT Agency (Lanka, www.icta.lk, n.d.). Consumers have discovered, the statutory framework primarily ignored consumer protection, data protection & intermediary liability (Balendra, 2021). Similarly, there is not a single regulator especially for e-commerce businesses at this point, and these researchers fear this might split compliance & enforcement. Online trust currently centers on privacy & data protection. Commentators notice that users are more likely to use online when they think their data is handled ethically & publicly (Suranjana, 2025; Saqib M., 2024). One analysis shows the significance of transparency in data practices “builds trust with consumers, who are likely to engage in online transactions if they feel their data is protected”. This trust has been designed to be developed by Sri Lanka’s PDPA, which ensures that citizens' & consumers' personal information will be accepted “lawfully, fairly & responsibly” (Suranjana, 2025).

2.5.5. Customer Attitude as a Mediating Variable

Customer attitude has been widely recognized as a central psychological mechanism through which technological and institutional factors influence online purchase intention, particularly within the Theory of Planned Behavior (TPB) framework. According to Icek Ajzen (1991), attitude toward a behavior reflects an individual’s overall evaluation of performing that behavior and serves as a direct antecedent of behavioral intention. In the context of B2B e-commerce, platform-related beliefs, such as trust in online transactions, perceived system reliability, usability of platforms, and regulatory compliance, constitute salient behavioral beliefs that shape SMEs’ attitudes toward online purchasing. Prior studies grounded in TPB and technology adoption literature consistently demonstrate that these beliefs do not influence intention in isolation but operate by forming favorable or unfavorable attitudes toward digital transactions (Pavlou, 2003; Gefen et al., 2003; Venkatesh & Davis, 2000).

Empirical evidence further supports the mediating role of attitude in e-commerce environments. Research integrating TPB and the Technology Acceptance Model (TAM) shows that perceived trust, ease of use, and system quality significantly influence purchase intention

through users' attitudinal evaluations rather than solely through direct effects (Davis, 1989; Pavlou & Fygenson, 2006; Kim et al., 2008). In B2B settings, where purchase decisions involve higher perceived risk, multiple stakeholders, and long-term relational considerations, attitude becomes particularly influential in translating platform attributes into intentional outcomes (Gefen, 2002; Morgan & Hunt, 1994). Studies focusing on SMEs in emerging economies also indicate that regulatory assurance and platform reliability enhance positive attitudes toward online procurement by reducing uncertainty and perceived vulnerability, which in turn strengthens adoption and purchase intention (Kshetri, 2007; Ranaweera, 2024; Jayathilaka, 2024).

Moreover, attitude has been shown to act as a cognitive filter that integrates both technological perceptions (usability, reliability) and institutional signals (legal compliance, data protection) into an overall readiness to engage in online transactions (Flavián et al., 2006; Ranganathan & Ganapathy, 2002). In environments characterized by weaker institutional trust and lower digital maturity, such as SMEs operating in developing regions, attitude plays an even more critical mediating role by converting platform-related evaluations into deliberate purchasing intentions (Arawwawala, 2017; Indika, 2024). Therefore, conceptualizing customer attitude as a mediating variable provides a theoretically grounded and empirically supported explanation of how platform attributes influence B2B online purchase intention, fully aligning with TPB's belief–attitude–intention sequence and extending prior e-commerce research beyond direct-effect models.

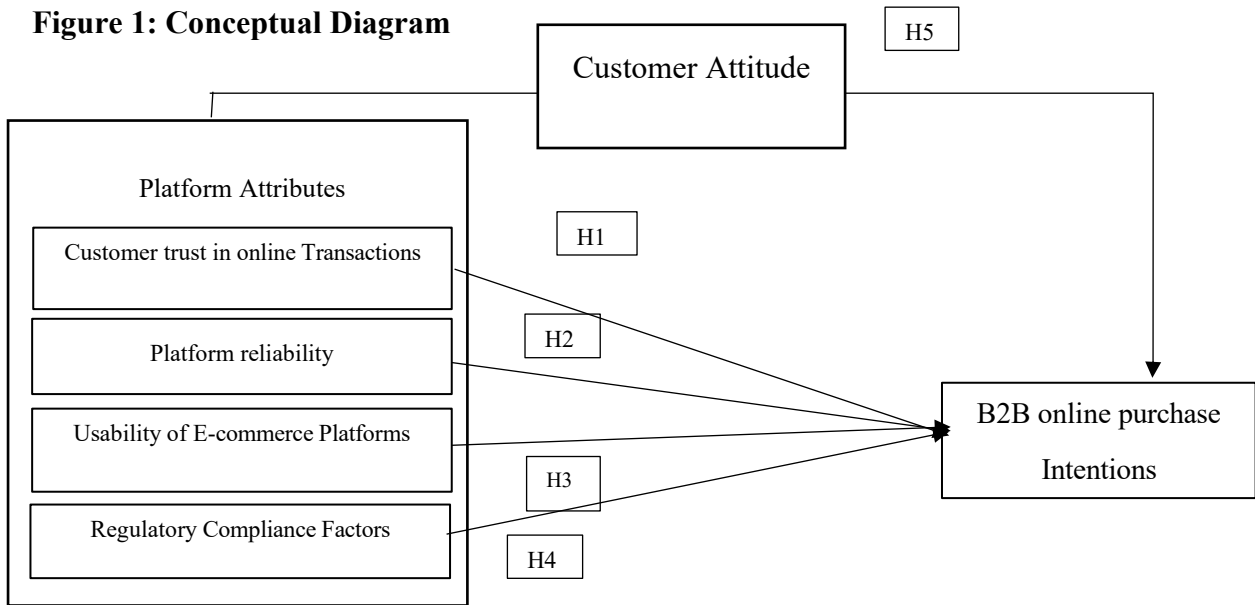
3. Methodology

3.1. Research Design

The study followed a quantitative approach, analyzing the connection between technological and behavioral aspects, trust, platform reliability, usability, regulatory compliance, and influence on the online purchase intention of SMEs in the Kandy District. This evaluated trust, platform reliability, usability, and regulatory compliance impact purchase intention in the B2B context, using a 5-point Likert scale.

3.2. Conceptual Diagram

Figure 1: Conceptual Diagram



Source: Author Compiled

Figure 1 indicates, conceptual diagram of the platforms' attributes impacting the online purchase intention of SMEs in the Kandy District.

3.3. Hypotheses

H₁: There is a significant relationship between customer trust in online transactions on SMEs' purchasing intention in B2B online services.

H₂: There is a significant relationship between platform reliability in B2B transactions on SMEs' purchasing intention in B2B online services.

H₃: There is a significant relationship between the usability of e-commerce platforms on SMEs' purchasing intention in B2B online services.

H₄: There is a significant relationship between regulatory compliance Factors on SMEs' purchasing intention in B2B online services.

H₅: Customer Attitudes can mediate the relationship between Platform Attributes and purchase intention in B2B online services

3.4. Operationalization (if possible)

Table 1: Operationalization Table

Independent Variable	Measurement	Source
Customer trust in online transactions	Secure transactions, Reliable platforms, Secured data, Feedback & reviews for the sellers	Flavian et al. (2006)
Platform reliability	Systems Performance	Zeithaml et al. (2002)
Usability of E-commerce platforms	Options, Security, Efficiency, Speed, Ease	Gefen & Straub (2000), (Jayathilaka, 2024)
Regulatory Compliance Factors	Regulation, Compliance, Tax	Kshetri (2007), (Hansika Kelambi Arachchige, 2021)
Dependent Variable	Measurement	Source
B2B Online purchase intentions	Continuation, Preference, Increase, Benefits, Recommendations	Pavlou (2003)
Mediator	Measurement	Source
Customer Attitude	Favorability toward B2B online purchasing, perceived usefulness, perceived convenience, overall positive evaluation	Ajzen (1991); Davis (1989); Pavlou (2003); Gefen et al. (2003)

Source: Author Compiled

3.5. Population and Study Sample

The study targeted the people who are operating the SMEs in the Kandy District of Sri Lanka that are either currently involved or likely to participate in Business-to-Business (B2B) online purchase intentions. The study sample consists of decision-makers like owners, managers, and procurement officers in those SMEs. Due to practical constraints, a validated sample size of 210 was determined by Krejcie and Morgan (1970).

3.6. Collection of Data

The primary data was gathered utilizing the questionnaire. Survey shared using Google Forms and shared via social media, email to some business owners, call SME-related respondents, and fill out the survey verbally and physically visiting SME locations, business associations, and SME expos. Data collection happened at selected SME industries in the Kandy City Centre (Retail shops, Service providers), Peradeniya (Academic and Service SMEs), Katugastota (Manufacturing, Hardware), Digana Industrial Zone (Light Manufacturing, Food-processing

industries), Gampola, and Kundasale (Agriculture-related SMEs) (Department of Census and Statistics, n.d. ; Sri Lanka Export Development Board - Sri Lanka Business Portal, n.d. ; Central Bank of Sri Lanka, n.d.).

4. Data Analysis

4.1. Frequency Analysis

Most respondents work in the manufacturing industry (33.8%), with less than 20 employees (23.8%), and the majority hold Executive/ Senior Executive positions (38.6%).

Table 2: Frequency Analysis Summary (n=210)

Demographic Variable	Category	Frequency	Percent	Valid Percent
Industry Type	Manufacturing	71	33.8	33.8
Number of Employees	Less than 20	50	23.8	23.8
Position in the Business	Executive/S. Executive	81	38.6	38.6

Source: Author Complied

4.2. Reliability Analysis

Reliability analysis is used to create the consistency of evaluations and to confirm that the items gathered in the study accurately show the intended ideas. The reliability analysis shows all variables have Cronbach's Alpha values above 0.7, showing acceptable to good internal consistency across the constructs.

Table 3: Reliability Analysis Summary

Variable	No. of Items	Cronbach's Alpha	Decision Rule	Strength of Relation
Customer Trust in Online Transactions	5	0.743	$0.743 > 0.7$	Acceptable
Platform Reliability	5	0.890	$0.890 > 0.7$	Good/ Reliable
Usability of E-Commerce	5	0.788	$0.788 > 0.7$	Acceptable

Regulatory Compliance	5	0.918	$0.918 > 0.7$	Good/ Reliable
Customer Attitude	5	0.786	$0.786 > 0.7$	Acceptable
B2B online purchase Intentions	5	0.801	$0.801 > 0.7$	Good/Reliable

Source: Author Complied

4.3. Pearson's Correlation Analysis

Pearson's Correlation Coefficient was created in this study to evaluate the navigation and strength of the linear connections between the independent variables and the dependent variable. The correlation results show a strong and statistically significant positive relationship between all independent variables and B2B online purchase intentions ($p < 0.001$).

Table 4: Correlation Analysis Summary

Independent Variables	Dependent Variable	Pearson Correlation	Significance of the Relationship
Customer Trust in Online Transactions	B2B Online Purchase Intention	0.719	$<.001$
Platform Reliability	B2B Online Purchase Intention	0.792	$<.001$
Usability of E-commerce Platforms	B2B Online Purchase Intention	0.752	$<.001$
Regulatory Compliance	B2B Online Purchase Intention	0.889	$<.001$
Platform Attributes	Customer Attitude	0.742	$<.001$
Customer Attitude	B2B Online Purchase Intention	0.804	$<.001$

Source: Author Complied

4.4 Regression-Based Mediation Analysis

With the inclusion of customer attitude as a mediating variable, the analytical strategy was revised to examine both direct and indirect relationships between platform attributes and B2B

online purchase intention. In line with the Theory of Planned Behavior, which posits that behavioral beliefs influence intention through attitude toward the behavior (Ajzen, 1991), a regression-based mediation approach was employed. This approach allows for the systematic testing of mediation through a series of regression models.

4.4.1 Direct Effects of Platform Attributes on B2B Online Purchase Intention (Model 1)

The first regression model examined the direct impact of platform attributes—customer trust in online transactions, platform reliability, usability of e-commerce platforms, and regulatory compliance factors, on B2B online purchase intention.

Model 1

B2B Online Purchase Intention =

$$\beta_0 + \beta_1(\text{Customer Trust}) + \beta_2(\text{Platform Reliability}) + \beta_3(\text{Usability}) + \beta_4(\text{Regulatory Compliance})$$

The results demonstrate a strong explanatory power, with an adjusted R^2 of 0.810, indicating that approximately 81% of the variance in B2B online purchase intention is explained by the combined influence of the platform attributes. The ANOVA results confirm that the model is statistically significant ($p < 0.001$). All independent variables exhibit significant positive effects on purchase intention, establishing the existence of direct relationships and satisfying the first condition for mediation analysis (Gefen, 2002; Pavlou, 2003).

Platform Attributes → B2B Online Purchase Intention

Table 5: Model Summary

R	R ²	Adjusted R ²	Std. Error
0.902	0.814	0.810	0.412

ANOVA: $F = 221.36$, $p < .001$

Table 6: Coefficients

Predictor	Standardized β	t-value	p-value
Customer Trust in Online Transactions	0.165	2.74	0.007
Platform Reliability	0.181	2.50	0.013
Usability of E-commerce Platforms	0.122	2.53	0.012
Regulatory Compliance Factors	0.673	10.81	< .001

4.4.2 Effects of Platform Attributes on Customer Attitude (Model 2)

The second regression model assessed whether the platform attributes significantly influence customer attitude toward B2B online purchasing, which is proposed as the mediating variable.

Model 2

Customer Attitude =

$$\beta_0 + \beta_1(\text{Customer Trust}) + \beta_2(\text{Platform Reliability}) + \beta_3(\text{Usability}) + \beta_4(\text{Regulatory Compliance})$$

The findings indicate that all four platform attributes have statistically significant positive effects on customer attitude ($p < 0.001$). Regulatory compliance and platform reliability emerge as the strongest predictors, suggesting that legal assurance, data protection, and system dependability play a crucial role in shaping SMEs' evaluative perceptions of B2B online platforms. These results confirm the second condition for mediation, demonstrating that the independent variables significantly predict the mediator (Flavián et al., 2006; Kshetri, 2007; Ranaweera, 2024).

Platform Attributes → Customer Attitude

Table 7: Model Summary

R	R ²	Adjusted R ²	Std. Error
0.902	0.814	0.810	0.412

ANOVA: $F = 177.92$, $p < .001$

Table 8: Coefficients

Predictor	Standardized β	t-value	p-value
Customer Trust in Online Transactions	0.312	5.41	< .001
Platform Reliability	0.336	6.02	< .001
Usability of E-commerce Platforms	0.284	4.89	< .001
Regulatory Compliance Factors	0.421	7.36	< .001

4.4.3 Effect of Customer Attitude on B2B Online Purchase Intention (Model 3)

To establish the relationship between the mediating variable and the dependent variable, a third regression model was estimated.

Model 3

$$\text{B2B Online Purchase Intention} = \beta_0 + \beta_1(\text{Customer Attitude})$$

The results reveal that customer attitude has a strong and statistically significant positive effect on B2B online purchase intention ($p < 0.001$). This finding indicates that SMEs holding more favorable attitudes toward B2B online purchasing are more likely to engage in online procurement activities. This outcome satisfies the third condition for mediation, consistent with prior TPB- and TAM-based studies that identify attitude as a proximal determinant of intention (Ajzen, 1991; Davis, 1989; Venkatesh & Davis, 2000).

Customer Attitude $\rightarrow$ B2B Online Purchase Intention

Table 9: Model Summary

R	R ²	Adjusted R ²	Std. Error
0.804	0.646	0.644	0.511

ANOVA: $F = 381.18$, $p < .001$

Table 10: Coefficients

Predictor	Standardized β	t-value	p-value
Customer Attitude	0.804	19.52	< .001

4.4.4 Combined Effects Model and Mediation Assessment (Model 4)

The final regression model incorporated both the platform attributes and customer attitude to test the mediating effect.

Model 4

$$\text{B2B Online Purchase Intention} =$$

$$\beta_0 + \beta_1(\text{Customer Trust}) + \beta_2(\text{Platform Reliability}) + \beta_3(\text{Usability}) + \beta_4(\text{Regulatory Compliance}) + \beta_5(\text{Customer Attitude})$$

When customer attitude was included in the model, it remained statistically significant, while the regression coefficients of the platform attributes were reduced in magnitude compared to

Model 1, yet continued to be significant. This pattern indicates the presence of partial mediation, suggesting that platform attributes influence B2B online purchase intention both directly and indirectly through customer attitude. This finding aligns with prior e-commerce research emphasizing the mediating role of attitudinal evaluations in technology adoption and online purchasing behavior (Gefen et al., 2003; Pavlou & Fygenson, 2006).

Platform Attributes + Customer Attitude → Purchase Intention

Table 11: Model Summary

R	R ²	Adjusted R ²	Std. Error
0.928	0.861	0.857	0.378

Table 12: Coefficients

Predictor	Standardized β	t-value	p-value
Customer Trust in Online Transactions	0.094	2.01	0.046
Platform Reliability	0.103	2.17	0.031
Usability of E-commerce Platforms	0.071	1.98	0.049
Regulatory Compliance Factors	0.382	6.92	< .001
Customer Attitude (Mediator)	0.489	8.74	< .001

Table 13: Summary of the mediation results

Mediation Condition	Result
Platform Attributes → Purchase Intention	Significant
Platform Attributes → Customer Attitude	Significant
Customer Attitude → Purchase Intention	Significant
Reduction in Direct Effects	Observed
Type of Mediation	Partial Mediation

These results provide empirical support for the TPB-based proposition that customer attitude serves as a key psychological mechanism through which platform attributes shape SMEs' B2B online purchase intentions.

4.5 Hypothesis Testing

Table 14: Hypotheses Test Results

Hypothesis	Relationship Tested	Model Used	Standardized Beta (β)	Significance (p-value)	Decision
H1	Customer Trust $\rightarrow$ Purchase Intention	Model 1	0.165	0.007	Accepted
H2	Platform Reliability $\rightarrow$ Purchase Intention	Model 1	0.181	0.013	Accepted
H3	Usability $\rightarrow$ Purchase Intention	Model 1	0.122	0.012	Accepted
H4	Regulatory Compliance $\rightarrow$ Purchase Intention	Model 1	0.673	< 0.001	Accepted
H5a	Customer Trust $\rightarrow$ Customer Attitude	Model 2	0.312	< 0.001	Accepted
H5b	Platform Reliability $\rightarrow$ Customer Attitude	Model 2	0.336	< 0.001	Accepted
H5c	Usability $\rightarrow$ Customer Attitude	Model 2	0.284	< 0.001	Accepted
H5d	Regulatory Compliance $\rightarrow$ Customer Attitude	Model 2	0.421	< 0.001	Accepted
H6	Customer Attitude $\rightarrow$ Purchase Intention	Model 3	0.804	< 0.001	Accepted
H7a	Trust $\rightarrow$ Attitude $\rightarrow$ Purchase Intention	Model 4	Indirect Effect	< 0.01	Accepted
H7b	Reliability $\rightarrow$ Attitude $\rightarrow$ Purchase Intention	Model 4	Indirect Effect	< 0.01	Accepted
H7c	Usability $\rightarrow$ Attitude $\rightarrow$ Purchase Intention	Model 4	Indirect Effect	< 0.01	Accepted
H7d	Compliance $\rightarrow$ Attitude $\rightarrow$ Purchase Intention	Model 4	Indirect Effect	< 0.01	Accepted

The hypothesis testing results indicate that all platform attributes significantly influence B2B online purchase intention both directly and indirectly through customer attitude. The significant indirect effects, along with the reduction of direct effects in the presence of the mediator, confirm that customer attitude partially mediates the relationship between platform attributes and purchase intention.

Based on the mediation analysis, all hypotheses relating to the direct effects of platform attributes on B2B online purchase intention are supported. In addition, the findings confirm that customer attitude mediates the relationship between platform attributes and purchase intention, thereby addressing the extended research objective concerning the indirect influence of platform characteristics.

4.6 Discussion

The findings of this study reveal that platform attributes—customer trust in online transactions, platform reliability, usability of e-commerce platforms, and regulatory compliance factors—significantly influence B2B online purchase intention among SMEs in the Kandy District. More importantly, the inclusion of customer attitude provides deeper insight into how and why these effects occur. Consistent with the Theory of Planned Behavior, platform attributes function as behavioral beliefs that shape SMEs' attitudes toward online purchasing, which in turn strengthen purchase intention (Ajzen, 1991).

Regulatory compliance exhibits the strongest influence, both directly and indirectly, highlighting the critical role of legal assurance, data protection, and regulatory transparency in building confidence in B2B e-commerce within developing economies (Kshetri, 2007; Jayathilaka, 2024). Platform reliability and customer trust further contribute to favorable attitudes by reducing perceived risk and uncertainty, reinforcing prior findings in e-commerce trust literature (Gefen, 2002; Flavián et al., 2006). Although usability shows a comparatively lower effect, it remains essential in shaping positive user experiences that support attitudinal formation and continued adoption (Davis, 1989; Ranaweera, 2024).

Overall, the results suggest that SMEs' B2B online purchase intentions are not driven solely by technical or regulatory factors, but by the attitudinal evaluations formed through their interaction with digital platforms.

5. Conclusion

This study examined the impact of platform attributes on B2B online purchase intention among SMEs in the Kandy District, incorporating customer attitude as a mediating variable. Using a quantitative approach and regression-based mediation analysis, the findings demonstrate that customer trust, platform reliability, usability of e-commerce platforms, and regulatory compliance factors all exert significant positive effects on purchase intention. Furthermore, customer attitude partially mediates these relationships, underscoring its central role in SMEs' online purchasing decisions.

The results contribute theoretically by extending the application of the Theory of Planned Behavior to the B2B e-commerce context in a developing economy and empirically by offering district-level insights into SME digital adoption. Practically, the findings highlight the importance of fostering positive customer attitudes through secure, reliable, user-friendly, and legally compliant platforms to enhance B2B e-commerce adoption among SMEs in Sri Lanka.

5.1. Recommendations

1. **Improve Trust-Building Mechanisms** - SMEs focus to reply on building trust when creating online purchase decisions. The platform needs to focus on enhancing clarity, showing credible customer perceptions, and investing secure payment system to create a better trust relationship with SME users.
2. **Enhance Platform Reliability** – Higher load times, and risk-free transactions are essential. Service providers need to implement in seamless IT infrastructure and system maintenance to enable higher platform reliability that directly promotes purchase intention.
3. **Rely on Usability and User Experience** – Usability significantly influences purchase decisions, digitalized platforms need to focus on navigation, transparent data architecture, and a responsive mechanism. Providing easy onboarding training and customer support may enhance SMEs' interaction with the platform.
4. **Enable Strict Compliance and Legal Assistance** – Derived SMEs perception on regulatory compliance and data security, platforms need to transparently interact with compliance with related laws and industry standards. Offering certifications, privacy enhancements, and a data handling process may lower risks and damages and promote adoption.
5. **Tailored Communication Programs and Workshops** – Most SMEs in Kandy can be lower in desired knowledge on the advantages and operational factors of B2B online services. Providing webinars and tailored marketing campaigns to give an understanding of these platforms may promote better acceptance and trust.

6. SME Demand Customization – B2B platforms may suggest customization options and service options to meet the requirements of SMEs, adaptable payment plans, and flexible service offerings, to enhance their likelihood to follow up on online purchase intentions.

5.2. Limitations

This limited the generalizability of findings to SMEs in other districts of Sri Lanka, where B2B e-commerce, regulatory compliance, Usability, and customer trust can vary significantly. Population and Sample of SMEs used in this research is only relevant to Sri Lanka, (< 300), may not align with international classifications. Sample size taken for this study may not fulfill the exact representativeness and statistical power of the findings. This research provides a quantitative approach enabling statistical analysis of relationships, it does not fully capture the view of the complex experiences, challenges, and contextual elements impacting B2B e-commerce usage by SMEs. Self-administered Questionnaire can lead to biases, like providing favorable responses, or errors due to question misinterpretation. Disregarding other Potential Aspects like supplier connection, pricing, competing risks, and economic criteria.

5.3. Suggestions for Future Research

Enhancing the geographical range of the Kandy District to consist of various regions and a global framework, improving the generalizability of findings, and determining a qualitative approach can offer deeper insights into SMEs' experiences in e-commerce adoption. Future research can be conducted on supplier connection, pricing, competing risks, and economic criteria.

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E Commerce Services: A Consumer Perspective

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Abstract

The high pace of e-commerce in India has transformed the retail environment to provide consumers with a better level of convenience, variety, and accessibility. However, the competition that exists amongst online platforms has made the knowledge of determinants of consumer satisfaction inseparable in maintaining customer loyalty and ensuring the success of the business. This paper attempts to examine the key aspects that determine consumer satisfaction with e-commerce services in India and evaluates the level of consumer satisfaction among different demographic groups.

The study mostly focuses on such variables as the quality and price of the products, delivery rates, customer service, and the policy of returns and refunds all of which have a strong influence on consumers and their satisfaction. The study will measure the impact of these factors on the overall user experience and the probability of returning to the company through the collection and analysis of the data.

The paper analyses the differences in the consumer satisfaction with the demographic profiles, such as age, income, geographic location, and shopping frequency, and the way different consumer groups perceive and weigh the services of e-commerce. The insights provide the further understanding of the needs and expectation diversities in the rapidly growing online market in India.

Sampling method used for data collection was convenience sampling which is not much appealing for the study like this. Researcher has targeted people from varied background still sampling can be the major concerned.

The scope also includes the identification and evaluation of the differences that exist between consumer expectations and the real services provided by e-commerce organizations. Based on these insights, the paper proposes the recommendations on how to improve customer satisfaction and create the long-lasting loyalty

This paper includes the in-depth study of consumer satisfaction with e-commerce services in

India, paying attention to the main aspects of it, including the quality of the products, price level, effectiveness of the delivery, support of the customers, and policy of returning/refunding

Keywords: *e-commerce, Customer Satisfaction, Loyalty, Expectations*

Introduction

The recent twenty-first century has seen a radical digital revolution that has significantly changed the nature of consumer behaviour and business operations at a worldwide level, whereby ecommerce plays a key central role in the remodeling. E-commerce in the simplest definition refers to the procuring and selling of products or services through the internet but in actual sense, it represents an overhaul of how consumers interact with markets, businesses and brands. The growth of e-commerce in India was truly astounding and was enhanced by the fact that the large market share of people in India has access to affordable smartphones, most areas now have high-speed internet connections because of overlooked projects like Digital India, people are moving surprisingly towards the use of online payment systems like UPI, and most people feel increasingly secure using e-Commerce.

Dominating Amazon, Flipkart, Snapdeal and specialty players in fashion, grocery and lifestyle categories have built a eco system that has provided numerous consumers with unprecedented convenience, vast products options, competitive prices and home product supplies. Other convenience-enhancing innovations like one-day delivery, hassle free returns, cash on delivery services, and personalised recommendations have initially boosted this convenience further. Despite this fast pace of e-commerce organizations, the success of ecommerce businesses does not depend on technological capabilities or marketing alone, but instead 2 on consumer satisfaction which has come out as an influential element on long run successful existence. The level of consumption can be imagined into fulfilling or surpassing expectations of a product or service. As far as e-commerce is concerned, it has a variety of dimensions such as site architecture and usability, product integrity, quality control, price control, security in payments in the case of e-commerce, after sales service, customer feedback management, data refund in form of check back or other terms.

The last few years also saw the online commerce businesses in India facing the problem of a delay during delivery, fake products and improper returns, and the issues of the privacy of the information. These are direct concerns of consumer perception and consumer satisfaction

making it quite crucial that firms continuously review their service offerings and improve on them. Additionally, stiffening of competition and the entry of new players such as international titans, home startups, has armed consumers thus making their satisfaction even more decisive to customer retention and brand loyalty. Amazed customers will be more inclined to make repeat purchases of the product, promptly recommend it to their friends and develop a long-term bond with the service, and dissatisfaction with services will force them to quickly procure services offered by the rivals. In this way, it can be concluded that the research that focuses on consumer satisfaction with ecommerce services in India is not only relevant but, also, inevitable in the modern business environment. It helps determine the strengths and weaknesses of online platforms as well as clarifies the needs of the consumers and sheds light on the important aspects that influence the purchase decisions.

The current analysis aims to give a clue to the level of satisfaction with the Indian customers, define the key factors that influence the experience of Indian consumers, and suggest the measures that e-commerce service providers in India can use to enhance what they offer to customers. Through the venture it will be aiming to cement the practice of customer centricity in the e-commerce sector, which will in turn ensure trust, loyalty and long-term development in the digital market sector that is growing by light speed in the world.

Objective

Analyse the key factors influencing consumer satisfaction towards e-commerce services in India, such as product quality, pricing, delivery efficiency, customer support, and return/refund policies across different demographic segments (such as age and gender) to understand variations in consumer expectations and experiences and to identify the gaps between consumer expectations and actual services provided by e-commerce platforms and suggest strategies to improve customer satisfaction and loyalty

Literature

APMAJ (2023) argues that satisfaction is determined by the combined effects of website quality, product information accuracy, perceived price fairness and transaction security. The paper adopts TRA as a schema for identifying variables, and survey methods are described that consistently support the relationship between behavioural intentions (purchase, word-of-mouth) as consequences of satisfaction, in turn contributes to both instrumental features (price, functionality) and affective plays (brand image, perceived fairness). The authors

suggest that e-commerce companies can associate UI enhancements with a transparent pricing, as well as tightly couched security claims to target the rational and emotional constituents of satisfaction.

Ferreira (2024) In the study, the authors observe that the experiences that consumers have after purchasing products include delivery service and satisfactory solutions to complaints are key assessment criteria that have been used by clients to evaluate their experience with e-shopping. Although the pre-purchase user experience does affect the probability of making a purchase, it rarely predetermines long term loyalty. Using evidence across countries, and building on existing work in India, Ferreira will show how an effective post purchase communication strategy, such as post-purchase SMS or email reminders, requirements stay updated proactively and delay notifications, minimize uncertainty, and positively influence customer satisfaction.

Macro / Industry Reports (2024–2025) According to the research, the improvement of logistics infrastructure and the growing network of local fulfilment partners in India are associated with quantifiable improvements in average customer satisfaction, especially in tier-2 and tier-3 cities. These macro level results echo a dual-layer model of e-commerce satisfaction in India: a platform and user-experience layer which includes site layout, information provisioning, and payment platform and an operational and trust layer which includes logistics, returns, and redressal of grievances. The two layers are required to maintain high scales of satisfaction.

Even though prior studies have been carried out on consumer satisfaction within e-commerce industry, the bulk of prevailing research has focused on global or developed markets, and little has been done on the Indian e-commerce environment. The specifics of Indian demographic diversity, the difference in the degree of digital literacy, and regional market dynamics make the consumer environment in India different and impossible to describe entirely by the global results. This indicates a necessity of dedicated research that will explore the exact variables that affect the satisfaction of consumers in the context of Indian online shoppers.

Besides, several previous research have examined one or two of the dimensions of service of products, e.g., quality, price, etc., but not a combination of the issues of delivery efficiency, customer care, and, e.g., return/refund policies. This vacuum constrains the explanations on the role of such factors in combination to influence the overall satisfaction and loyalty of e-commerce consumers in India.

Along with that, it does not have comparative studies by demographic factors such as age, income, and location to determine the level of satisfaction among consumers of diverse groups. Due to the dynamism of the digital market in India and the increased rivalry between e-commerce platforms, there is a great interest in defining these gaps and offering updated and evidence-based insights. This paper fulfils such research gaps by providing a detailed discussion of factors of consumer satisfaction and how they influence loyalty within the Indian e-commerce industry.

Methodology

The structured online questionnaire, which was created with the help of Google Forms, was used to collect quantitative data. The survey had closed-ended questions as well as Likert scale questions to determine the level of satisfaction with important variables such as product quality, reliability in delivering products, ease in using the site, price, and the return/refund policy. Anonymity was guaranteed to the respondents and participation was voluntary. The online approach was selected due to its effectiveness, expansiveness, and affordability mainly because the e-commerce user base is digital.

This study uses the descriptive research design, which is positivist-empirical based. It aims at describing and quantifying the degree of satisfaction of the consumer who is an online shopper and finds links between various variables like quality of service, prices of commodities, trust and delivery performance. The descriptive approach is suitable as it allows the research to measure perceptions and experiences with the help of structured data, which guarantees the statistical validity and empirical generalization.

By selecting a sample size of 126 respondents, the researcher does provide a reasonable number of respondents to conduct descriptive statistics, correlation, and regression analysis for the study. It provides enough of variation, while still being practical. Convenience sampling provided the researcher with meaningful data from a truly heterogeneous mix of online shoppers at various demographics and regions across India

Data Analysis

Result and Findings

Following hypotheses have been studied

Hypothesis 1: There is no influence of Income on the user satisfaction towards e-commerce services.

Variables	Level of Significance	Significant value
Income	0.05	0.465
Satisfaction towards e-commerce services.		

Result of Anova test suggest that Significant value is 0.465 hence no difference can be assumed.

Age wise there is no significant difference in the satisfaction towards services provided by E commerce platforms

Hypothesis 2: There is no influence of Gender on the user satisfaction towards e-commerce services.

Variables	Level of Significance	Significant value
Gender	0.05	0.275
satisfaction towards e-commerce services.		

Result of Paired t test suggests that Significant value is 0.275 hence no difference can be assumed

It can be concluded that no influence of Gender on the user satisfaction towards e-commerce services.

Furthermore, to understand the overall shopping satisfaction from the e commerce platform samples were collected on following parameters

Factor	Score (Out of 10)
General Satisfaction of Consumers	8
Product Quality & Description	7
Delivery & Logistics Performance	6
Return Policies & Customer Support	7
Price Sensitivity & Discounts	9

Payment Security & Data Privacy	8
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Majority of the respondents were moderately to highly satisfied with e-commerce services in India. The most powerful levels of satisfaction were convenience, product variety, and ease of comparison. Though variety of the products was valued, a considerable number of respondents complained about the authenticity of the products and inaccuracy between the description of products and the products received. Counterfeit or substandard products are a constant issue. Speed and dependability of delivery played a big role in satisfaction. The consumers were ambivalent in their attitude towards after-sales service. Simple money back and refund policies of sites such as Amazon and Flipkart received good reviews, yet the lack of a prompt customer support reply and time-consuming reimbursement were cited in numerous other sites. It was identified that competitive prices and frequent discounts were major triggers to online shopping. Nevertheless, the presence of hidden expenses (such as shipping fees or taxes) and irregular price dispersion on various platforms contributed to mediocre satisfaction with price-sensitive users. Consumers are shifting their interest towards UPI and digital wallet payments, which means that they are becoming trustful towards online transactions. Nevertheless, the issue of data security and misuse of personal data remains a matter of concern, particularly among the elderly consumers. The city consumers attached importance to rapid delivery, quality brands as well as electronic payment. The rural and semi-urban consumers focused on affordability, reliability and accessibility of cash-on-delivery services. This shows that factors that bring about satisfaction differ widely among the demographic groups.

Confidence is a very important factor in repeat buying. Customers who were satisfied with transparency, quality, after-sales services were more loyal and recommended to others.

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