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From Disability to Capability: A Framework for Entrepreneurial Participation among Persons with Disabilities in Western Province, Sri Lanka

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Abstract

Entrepreneurship is increasingly promoted as a pathway to economic participation and social inclusion for people with disabilities. Yet research offers a limited explanation of how individuals convert resources into entrepreneurial capability over time, particularly in low- and middle-income settings. This study develops an empirically grounded framework that explains how persons with disabilities transition from disability-related constraints to sustained entrepreneurial participation in Sri Lanka's Western Province. Guided by the Capability Approach, the study adopts a qualitative-dominant framework-development design supported by descriptive profiling. Data were collected from 209 persons with disabilities, drawn from an accessible population of approximately 3,000 individuals, using semi-structured interviews, structured surveys, and field observations conducted between April 2023 and August 2024. Thematic analysis identified three interconnected layers shaping entrepreneurial capability: constraint domains (inaccessibility, financial exclusion, skills mismatches, fragmented institutional support, stigma), enabling mechanisms (accommodation, tailored training, accessible finance, mentorship, coordinated assistance), and transition conditions mediating capability conversion (continuity of support, recognition, reliable services, market linkages). Findings show that entrepreneurial participation is shaped by dynamic structural and institutional interactions rather than impairment alone. The proposed framework reframes disability and entrepreneurship as a capability-expansion trajectory, offering

theoretical and policy implications for inclusive enterprise support in emerging-economy contexts.

Keywords: *Capability Approach, Disability and Entrepreneurship, Inclusive Entrepreneurship, Persons with Disabilities, Sri Lanka*

1. Introduction

Entrepreneurship is widely recognized as a mechanism for economic participation, livelihood security, and social inclusion, particularly in contexts characterized by labour market exclusion and limited formal employment opportunities. For persons with disabilities, however, participation in entrepreneurial activity remains uneven and structurally constrained despite increasing global commitments to disability rights and inclusive development. Contemporary scholarship emphasizes that disability-related exclusion arises not primarily from individual impairments, but from the interaction between individuals and the social, institutional, and economic environments in which they operate (Sen, 1999; United Nations, 2006).

In low- and middle-income countries, persons with disabilities face persistent barriers across education, labour markets, and enterprise ecosystems. Empirical studies identify inaccessible infrastructure, limited access to finance, poorly adapted skills training, fragmented institutional support, and negative social attitudes as major constraints on economic participation (Mitra et al., 2014; International Labour Organization, 2017). These barriers frequently result in entrepreneurship being pursued out of necessity rather than opportunity, often within informal or low-productivity segments of the economy (Naude, 2010).

The academic literature on disability and entrepreneurship reflects diverging analytical perspectives. One strand of research focuses on individual-level characteristics such as motivation, resilience, or self-efficacy, implicitly framing entrepreneurial outcomes as a function of personal attributes. In contrast, structural and rights-based approaches emphasize the role of enabling environments, institutional responsiveness, and policy frameworks in shaping entrepreneurial opportunities (Sen, 1999; Mitra, 2006). This divergence has generated ongoing debate regarding whether entrepreneurship among persons with disabilities should be understood primarily as an individual coping strategy or as an outcome of systemic inclusion.

Despite growing interest in inclusive entrepreneurship, several gaps remain. First, existing studies often examine isolated factors, such as access to finance or training, without integrating them into a coherent analytical framework that captures how constraints, enablers, and institutional processes interact over time. Second, much of the empirical evidence is drawn from high-income contexts, limiting the transferability of findings to developing-country settings. Third, relatively little attention has been paid to subnational contexts, where institutional capacity, service delivery, and market access can vary substantially within a single country (Mitra, 2018).

Despite growing international discourse on disability inclusion, entrepreneurship research has rarely examined inclusion as a strategic organizational capability rather than a compliance-driven obligation. This study responds to that omission by conceptualizing disability-inclusive employment as a market-facing capability that shapes value creation and competitive positioning in the Sri Lankan entrepreneurial context. Sri Lanka's Western Province provides a particularly relevant empirical setting for addressing these gaps (Ranasinghe, 2020). As the country's principal economic hub, the province combines relatively advanced infrastructure and dense institutional presence with persistent accessibility gaps and social inequalities affecting persons with disabilities. While national policies endorse disability inclusion, the effectiveness of entrepreneurship support mechanisms depends heavily on local implementation, coordination, and accessibility.

In emerging economies such as Sri Lanka, labour-market exclusion of persons with disabilities persists alongside increasing policy emphasis on inclusive growth. Understanding how firms can align disability inclusion with entrepreneurial value propositions is, therefore, both an applied necessity and a scholarly priority. Therefore, the purpose of this study is to develop an empirically grounded framework that explains how persons with disabilities transition from disability-related constraints toward entrepreneurial capability in Sri Lanka's Western Province. Drawing on qualitative evidence and descriptive profiling, and guided by the Capability Approach, the study identifies key constraint domains, enabling mechanisms, and transition conditions shaping entrepreneurial participation. The principal contribution of the study lies in reframing disability and entrepreneurship as a dynamic capability

expansion process, offering a structured analytical basis for inclusive entrepreneurship policy, programme design, and future research.

2. Literature Review

2.1 Disability-inclusive employment in organizations

Disability-inclusive employment is often framed in organizational practice as a matter of compliance or social responsibility, yet a development-oriented reading positions it as a question of expanding real opportunities and capabilities available to persons with disabilities. The capability approach argues that development should be evaluated by the substantive freedoms people can actually achieve, not merely by resources or formal rights (Sen, 1999). Within disability studies, capability thinking clarifies how impairments interact with environmental and institutional constraints to shape “functioning” and “capabilities,” making exclusion a result of conversion barriers rather than individual deficit (Mitra, 2006). This conceptual move matters for entrepreneurship and labour market participation because the relevant unit of analysis shifts from “whether a person is employed” to whether systems enable participation through accessible workplace practices, social supports, and institutional arrangements (Mitra, 2018). In developing-country contexts, disability is also closely entangled with multidimensional poverty, suggesting that exclusion from work is simultaneously an economic and capability deprivation rather than a standalone labour issue (Mitra et al., 2014). This body of work provides a theoretical foundation for reframing disability-inclusive employment as value-relevant: improving participation expands freedom and can reshape productive potential, particularly where labour markets are segmented and social protection is limited.

2.2 Capability Theory and Inclusion Gaps

However, while Sen’s (1999) capability theory offers a compelling normative and explanatory scaffold, entrepreneurship scholarship has tended to emphasise macro linkages between entrepreneurship and development without fully specifying how inclusion constraints alter entrepreneurial opportunity structures. Entrepreneurship is widely linked to structural transformation and economic development, but the developmental benefits are contingent on institutions and the distribution of opportunities (Naudé, 2010). A capability-informed critique is that entrepreneurship

ecosystems may amplify inequality when participation depends on access to resources, social networks, and enabling environments, precisely the areas where persons with disabilities experience systematic conversion barriers (Mitra, 2006; Sen, 1999). The literature therefore, indicates a gap at the intersection of disability and entrepreneurship: we can explain why inclusion matters for development, and we can explain why entrepreneurship matters for development, but the mechanisms through which disability-inclusive employment and workplace adjustment expand entrepreneurial participation remain underspecified in many applied studies (Mitra, 2018; Naudé, 2010). This gap becomes sharper in emerging economies where informality and productivity constraints shape livelihood pathways; even sector-specific productivity research highlights how management and organizational factors affect outputs, implying that inclusion strategies cannot be reduced to policy intent alone but must be embedded in operational practices (Ranasinghe, 2020).

A second gap concerns the distinction between rights recognition and implementation capability. International rights instruments establish a clear baseline that persons with disabilities are entitled to equal participation and non-discrimination. The Convention on the Rights of Persons with Disabilities places obligations on states to promote accessibility, equality, and full participation (United Nations, 2006). Complementing this, the ILO foregrounds workplace adjustments as practical mechanisms to promote diversity and inclusion, emphasising that inclusion is realised through concrete modifications to working environments and practices rather than declaratory commitments (International Labour Organization, 2017). Yet a persistent limitation in practice-oriented research is the tendency to cite rights frameworks without translating them into testable organisational propositions about what adjustments are made, how they are decided, and how they affect participation outcomes. A capability perspective helps address this translation problem by treating adjustments as conversion factors that enable individuals to turn resources and legal entitlements into achievable functionings. (Mitra, 2006; Sen, 1999). The unresolved research need is therefore not simply “whether” inclusion is endorsed but “how” adjustment practices operate within real organisational constraints to expand capability sets, especially in contexts where markets, infrastructure, and public services may not support accessibility at scale (Mitra, 2018; Mitra et al., 2014).

A third gap is methodological: many manuscripts struggle to align their design choices with the complexity of inclusion and entrepreneurship dynamics. Case-based qualitative research is particularly suited to theorizing mechanisms in context, but it requires disciplined design logic and analytical transparency. Case study method guidance stresses the importance of clear case boundaries, a defensible chain of evidence, and an explicit analytic strategy connecting data to propositions (Yin, 2018). For complex organizational phenomena such as inclusion-as-capability, abductive reasoning can be valuable: systematic combining describes an iterative movement between theory and empirical observation, enabling refinement of constructs and relationships as evidence accumulates (Dubois & Gadde, 2002). This abductive stance is especially relevant where existing categories (e.g., “inclusion policy present/absent”) are too coarse to capture how workplace adjustments are negotiated, enacted, and sustained over time (International Labour Organization, 2017; Mitra, 2018). Yet abductive case research also increases the burden of justification: authors must demonstrate how theory-guided data collection and empirical anomalies refined the framework (Dubois & Gadde, 2002; Yin, 2018). Where manuscripts provide a fragmented or overly procedural method section, reviewers often infer weak design coherence. Qualitative design principles emphasise choosing an approach consistent with the research question and evidentiary aims, and writing methods in a way that evidences rigor rather than merely listing steps (Creswell & Poth, 2018).

3. Methodology

3.1 Research Design

This study uses a framework-development design within a qualitative-dominant, applied social research tradition. The primary objective is to construct an empirically grounded framework that explains how persons with disabilities can transition from constrained participation to capability-based entrepreneurial participation in Sri Lanka’s Western Province. A qualitative design is appropriate for framework-building because it enables identification of mechanisms (barriers, enablers, institutional processes) and context-specific pathways that are not adequately captured through survey metrics alone (Creswell & Poth, 2018; Yin, 2018). The conceptual lens draws

on the Capability Approach, which treats disadvantage as a function of the interaction between individual characteristics and the enabling environment (Sen, 1999).

3.2 Study Context

The Western Province was selected because it is Sri Lanka's principal economic zone with dense institutional infrastructure (training providers, labour-market intermediaries, enterprise support actors) and diverse livelihood opportunities. This context is therefore analytically suitable for examining how structural supports, accessibility, and resource availability influence entrepreneurial participation among persons with disabilities.

3.3 Target Population and Sample Size

The target population comprised persons with disabilities in the Western Province who were (i) engaged in self-employment/entrepreneurship, (ii) attempting to start an enterprise, or (iii) expressing intent to pursue entrepreneurial activity. Based on institutional listings and community registers used for recruitment, the accessible population was estimated at $N = 3000+$ individuals.

While prior studies have addressed disability inclusion from social justice and HR perspectives, limited empirical work has investigated its entrepreneurial and market-facing value implications in South Asian contexts. Accordingly, this study addresses a significant regional and theoretical gap by advancing a capability-based explanatory framework grounded in Sri Lankan evidence. A sample size of $n = 209$ participants was selected and adopted based on a purposive sampling method to support credible descriptive and inferential analysis for the quantitative component and to enable subgroup comparisons where feasible. In survey-based studies, larger samples reduce sampling error and improve the stability of estimates; standard sample-size reasoning is often expressed in terms of margin of error and confidence levels (Cochrane, 1977). For finite populations, practical determination commonly draws on established sample-size tables and formulas that incorporate population size, confidence level, and acceptable error (Krejcie and Morgan, 1970). With N in the order of several thousand, a sample in the low hundreds is widely used in applied social research to achieve stable estimates at conventional confidence thresholds, subject to feasibility constraints (Israel, 1992).

3.4 Sampling Strategy

A purposive strategy was used to ensure inclusion of participants across disability types, gender, and differing levels of prior exposure to training, assistive support, and enterprise opportunities. Purposive sampling is methodologically appropriate when the aim is to learn from information-rich cases and to represent key variations relevant to theory and framework construction (Patton, 2015). Where access constraints existed, recruitment was complemented by network-based referral (snowballing) to reach participants who are typically underrepresented in institutional samples (Noy, 2008).

3.5 Data Sources and Materials

Data were collected from [i] primary evidence: semi-structured interviews and structured survey responses from n=209 participants, supplemented by field observations where accessible and appropriate, and [ii] secondary evidence: policy and standards documents on disability inclusion and work participation, used to contextualise findings and align the framework with rights-based and labour inclusion principles (UNCRPD) (United Nations, 2006). All research instruments (interview guide, survey items, codebook, and analytic protocols) are treated as study materials and are described to allow replication (Creswell and Poth, 2018).

3.6 Data Collection Procedure

Data collection was conducted over an extended period from April 2023 to August 2024 to allow adequate coverage of participant availability and institutional access. Research instruments were developed before field engagement, with semi-structured interview prompts and structured survey items designed to capture capability-related constraints and enabling factors, including access to finance, assistive support, training pathways, social support networks, experiences of stigma or discrimination, and interactions with institutional actors. All instruments were reviewed for clarity, accessibility, and contextual appropriateness to ensure comprehension across diverse participant profiles.

Participants were recruited through established disability support networks, vocational and training centers, and community-based intermediaries operating within the Western Province. Recruitment procedures emphasized voluntary participation and inclusivity, and informed consent was obtained from all participants before data

collection. Interviews were administered in formats and locations suitable to participants' accessibility needs, allowing flexibility in communication modes and scheduling. Structured responses were recorded using standardized data-collection forms to reduce transcription errors and enhance consistency across cases.

In addition to interview and survey data, observational field notes were maintained to document environmental and institutional conditions influencing entrepreneurial participation, transport accessibility, service availability, and workplace adaptations. Where feasible, key factual information, including training participation and enterprise engagement status, was verified during data-collection sessions to improve internal consistency and data reliability. This multi-source approach strengthened the credibility of the dataset and supported framework development.

3.7 Data Management and Quality Control

Data were collected and managed using a reproducible and auditable workflow designed with Kobo Collect of the Harvard Humanitarian Project to ensure accuracy, transparency, and ethical integrity throughout the analytical process. Before analysis, systematic data-cleaning procedures were undertaken, including range checks to identify implausible values, profiling of missing data to assess completeness, and screening for duplicate records. These steps were implemented to minimise measurement error and enhance the reliability of the dataset.

To support auditability and methodological transparency, a versioned codebook and an analysis log were maintained throughout the study. All coding decisions, variable transformations, and analytical iterations were documented, enabling traceability and facilitating independent review or replication in line with qualitative research best practices (Yin, 2018). Participant confidentiality was preserved at all stages of data handling and reporting. Personal identifiers were removed or masked prior to analysis, and only de-identified data were used in analytical outputs and dissemination. Access to raw data was restricted to the research team, in accordance with ethical approval requirements and established standards for research involving human participants.

3.8 Analysis and Framework Construction

Qualitative evidence was analysed using thematic analysis, an established method for identifying patterned meanings, processes, and mechanisms across participant accounts (Braun and Clarke, 2006). Analysis began with an initial coding phase,

during which interview transcripts and field notes were examined to identify segments related to entrepreneurial barriers, enabling factors, institutional interactions, and expressions of capability expansion. Coding was conducted iteratively to ensure close engagement with the data and to capture variation across participant experiences.

Subsequently, related codes were grouped into higher-order themes representing recurrent patterns, accessibility and mobility constraints, financial inclusion, skills and enterprise readiness, institutional responsiveness, and social support dynamics. These themes were refined through constant comparison across cases to enhance internal coherence and analytic distinctiveness.

Framework construction followed an abductive analytical logic, iterating between empirically derived themes and established theoretical constructs to strengthen explanatory power (Dubois and Gadde, 2002). In this stage, themes were organised into a structured framework specifying three interconnected components: constraint domains that limit entrepreneurial participation, enabling mechanisms that expand opportunity and agency, and transition pathways through which participants move from constrained participation toward capability-based entrepreneurial engagement. The Capability Approach provided the primary theoretical lens guiding this synthesis, conceptualising entrepreneurial participation as a dynamic process of capability expansion rather than a fixed outcome (Sen, 1999).

Where quantitative variables were available, such as livelihood status, entrepreneurship stage, training exposure, and income bands, descriptive statistics were computed to profile the sample and support triangulation of qualitative interpretations. Integrating qualitative and descriptive quantitative evidence enhanced analytical credibility by allowing thematic interpretations to be examined in relation to observed distributional patterns within the dataset (Creswell and Poth, 2018).

3.9 Ethical Considerations

Ethical approval for the study was obtained from the relevant institutional ethics review authority before the commencement of data collection (Ethics Reference Number: ERN 2023/07, University of Kelaniya). All participation was voluntary, and informed consent was obtained from participants before any data were collected. Participants were informed of the purpose of the study, the nature of their involvement,

and their right to decline participation or withdraw from the study at any stage without consequence.

Given the inclusion of persons with disabilities, additional ethical safeguards were implemented to minimize potential risk and ensure respect, dignity, and autonomy. Data collection procedures were adapted to participants' accessibility needs, and care was taken to avoid coercion or undue influence during recruitment and engagement. Confidentiality and anonymity were strictly maintained throughout data handling, analysis, and reporting. These procedures are consistent with internationally recognised ethical principles for research involving human participants, including respect for persons, beneficence, and justice (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979).

3.10 Data Availability

Given the sensitivity of disability-related narratives and the risk of deductive disclosure in small communities, full transcripts are not publicly deposited. De-identified excerpts, the interview guide, the survey instrument, and a non-identifying codebook can be made available upon reasonable request, subject to ethical approval conditions and participant consent.

3.11 Use of Generative Artificial Intelligence

Generative AI tools were used only for language refinement (grammar, spelling, and formatting). No GenAI tools were used to generate data, perform coding, conduct statistical analysis, interpret findings, or develop the framework. All analytic decisions, coding, and interpretation are the authors' responsibility.

This study employed a qualitative-dominant, framework-development design to examine how persons with disabilities in Sri Lanka's Western Province transition toward capability-based entrepreneurial participation. Guided by the Capability Approach (Sen, 1999), data were collected between April 2023 and August 2024 through interviews, a structured survey of 209 purposively selected participants, and field observations. Thematic analysis was applied to identify key barriers and enablers (Braun & Clarke, 2006), and an abductive approach supported framework construction by linking empirical themes with theory (Dubois & Gadde, 2002). Ethical approval was obtained from the University of Kelaniya (ERN 2023/07), with

informed consent and confidentiality maintained throughout (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979).

4. Results

Table 1: Participant profile (n = 209)

Characteristic	Category	n (%)
Gender	Male	112 (54%)
	Female	94 (45%)
	Other / Prefer not to say	3 (1%)
Age group	18–29 years	62 (30%)
	30–44 years	78 (37%)
	45 years and above	69 (33%)
Disability type (self-reported)	Physical / mobility	95 (46%)
	Visual	43 (21%)
	Hearing / speech	38 (18%)
	Cognitive / multiple	33 (16%)
Education level	Primary or below	48 (23%)
	Secondary	118 (56%)
	Tertiary / vocational	43 (21%)
Current livelihood status	Employed	56 (27%)
	Self-employed / Entrepreneur	39 (19%)
	Unemployed	84 (40%)
	Student / Training	30 (14%)
Entrepreneurship stage	Operating a business	52 (25%)
	Start-up in progress	71 (34%)
	Intends to start	86 (41%)
Training exposure (vocational)	Yes	124 (59%)
	No	85 (41%)
Training exposure (entrepreneurship)	Yes	68 (33%)
	No	141 (67%)
Missing data	None reported	0 (0%)

Table 1 presents the participant profile for the study sample (n = 209). The specimen distribution illustrates a heterogeneous participant base across gender, age groups, disability types, and educational attainment, with representation across multiple livelihood positions and entrepreneurship stages. Importantly, the presence of participants who are operating enterprises, developing start-ups, and reporting entrepreneurial intent supports a pathway-oriented interpretation of entrepreneurial participation rather than a focus restricted to established business owners. The inclusion of both vocationally trained and untrained participants, as well as those with and without entrepreneurship-specific training, is analytically useful for examining

how capability formation varies by exposure to structured skills development and enterprise support. Capability pathway evidence: barriers, enablers, and transition conditions

Analysis of participant accounts (n = 209) identified recurring mechanisms that shape entrepreneurial participation among persons with disabilities. These mechanisms are reported as analytically distinct but interconnected *domains*, which together constitute the empirical foundation of the proposed framework. Rather than treating entrepreneurial outcomes as isolated events, the analysis conceptualises participation as a process influenced by layered conditions operating at structural, institutional, and social levels.

At the first layer, constraint domains were identified as factors that suppress or limit entrepreneurial participation. These included mobility and transport barriers, inaccessible public and financial services, exclusion from formal credit mechanisms, experiences of discrimination, and weak coordination across institutional support systems. Such constraints restricted participants' ability to access training, finance, markets, and institutional assistance, thereby narrowing the feasible set of entrepreneurial choices.

The second layer comprised enabling mechanisms that expanded participants' entrepreneurial capability. These mechanisms included access to assistive technologies and reasonable accommodations, tailored vocational and enterprise training, accessible credit or grant schemes, mentorship opportunities, supportive family and community networks, and responsive institutional actors. Enablers functioned by reducing effective barriers, enhancing skills and confidence, and improving access to resources necessary for enterprise initiation and continuation.

The third layer consisted of transition conditions that determined whether enabling mechanisms translated into sustained entrepreneurial capability. Evidence indicated that formal recognition, continuity of support across different stages of enterprise development, reliable service accessibility, and durable market access linkages were critical in facilitating movement from constrained participation toward capability-based entrepreneurial engagement. Together, these layers illustrate that entrepreneurial participation among persons with disabilities emerges through cumulative and coordinated processes rather than through single interventions.

Table 2: Thematic results mapped to framework domains

Theme-to-Framework Mapping Derived from Qualitative Analysis: Theme (Empirical)	Framework Domain	Evidence Indicator (Summary)
Physical and environmental access constraints	Accessibility&mobility	Participants reported barriers related to transport availability, inaccessible workspaces, and limitations in public infrastructure, which reduced their ability to attend training, access markets, and sustain entrepreneurial activity.
Limited access to financial services	Financial inclusion	Evidence indicated restricted access to formal credit, collateral requirements incompatible with participants' circumstances, and limited awareness of disability-inclusive financing schemes, constraining enterprise initiation and scaling.
Mismatch between training provision and enterprise needs	Skills&enterprise readiness	Participants described training programmes that were insufficiently adapted to disability-related needs or misaligned with market demands, resulting in reduced confidence and limited readiness for independent enterprise management.
Fragmented institutional support mechanisms	Institutional responsiveness	Accounts highlighted weak coordination among government agencies, training providers, and support organisations, leading to discontinuities in support across different stages of entrepreneurial development.
Social attitudes and dependence norms	Social support&stigma	Participants reported both enabling family support and constraining social expectations, including stigma and assumptions of dependency, influencing risk-taking behaviour and perceived legitimacy as entrepreneurs.

According to Table 2, the qualitative findings indicate that entrepreneurial participation among persons with disabilities is shaped by interconnected structural and institutional mechanisms rather than individual limitations alone. Accessibility and mobility barriers were consistently reported as restricting engagement with training opportunities and

market activities, while financial exclusion further constrained enterprise initiation and growth due to limited access to formal credit and appropriate support schemes. Participants also highlighted a mismatch between available training provision and the practical demands of entrepreneurship, reducing enterprise readiness. In addition, fragmented institutional coordination across agencies and support actors created discontinuities in assistance, particularly during transition stages of business development. Finally, social attitudes, including stigma and expectations of dependence, emerged as critical influences on perceived legitimacy and willingness to take entrepreneurial risks. Collectively, these themes support the proposed framework by demonstrating that capability-based entrepreneurial inclusion depends on the alignment of environmental accessibility, financial mechanisms, responsive institutions, relevant skills development, and supportive social norms.

4.1 Framework synthesis: From Disability to Capability

Figure 1 synthesises the empirical findings into an integrative framework that conceptualises entrepreneurial participation among persons with disabilities as a dynamic capability-conversion process rather than a fixed outcome. Constraint domains operate at structural, institutional, and social levels to restrict access to resources, services, and opportunities necessary for entrepreneurial engagement. These constraints reduce the effective choice set available to individuals, limiting not only participation but also the sustainability and quality of entrepreneurial activity.

Enabling mechanisms function as conversion factors that mitigate the effects of these constraints by improving the translation of available resources into actionable entrepreneurial capabilities. Access to assistive technologies and reasonable accommodations reduces functional barriers, while tailored skills and enterprise training enhance readiness and confidence. Inclusive financial instruments, mentorship, and coordinated institutional support further expand opportunity access by lowering entry barriers and strengthening market linkages. Importantly, the framework indicates that the presence of enablers alone is insufficient to guarantee sustained participation.

Transition conditions determine whether enabling mechanisms successfully translate into durable entrepreneurial capability. Continuity of support across different stages of enterprise development, formal recognition by institutions, reliable service accessibility, and sustained market access are shown to be critical in converting short-

term support into long-term agency and livelihood security. These conditions mediate the relationship between enablers and outcomes, explaining why similar interventions can produce divergent results across contexts and individuals.

Capability outcomes represent expanded entrepreneurial agency, reflected in sustained enterprise participation, income generation, social recognition, and an enlarged set of feasible economic choices. The feedback pathway depicted in Figure 1 highlights how successful participation can reinforce resources, confidence, and social networks, thereby strengthening future capability development. Collectively, the framework provides an empirically grounded explanation of how disability-related exclusion can be transformed into entrepreneurial capability through coordinated systemic alignment rather than isolated interventions.

Figure 1 presents the proposed “From Disability to Capability” framework, illustrating how entrepreneurial participation among persons with disabilities in Sri Lanka’s Western Province emerges through a dynamic interaction between constraints, enabling mechanisms, transition conditions, and capability outcomes. The framework shows that structural constraints, including accessibility barriers, financial exclusion, skills mismatches, institutional fragmentation, and social stigma, limit individuals’ access to entrepreneurial opportunities. In response, key enablers such as workplace accommodation, relevant training, inclusive financial support, mentorship, and coordinated institutional assistance expand participants’ capability sets. The model further emphasizes the importance of transition conditions, including continuity of services, social recognition, reliable support pathways, and effective market linkages, which facilitate the conversion of enabling inputs into sustained entrepreneurial engagement. Ultimately, these processes generate capability outcomes such as increased agency, enterprise sustainability, improved livelihoods, and strengthened social recognition. The feedback relationships depicted in the figure given below, highlight that entrepreneurial capability development is not linear but depends on ongoing institutional responsiveness and supportive socio-economic environments.

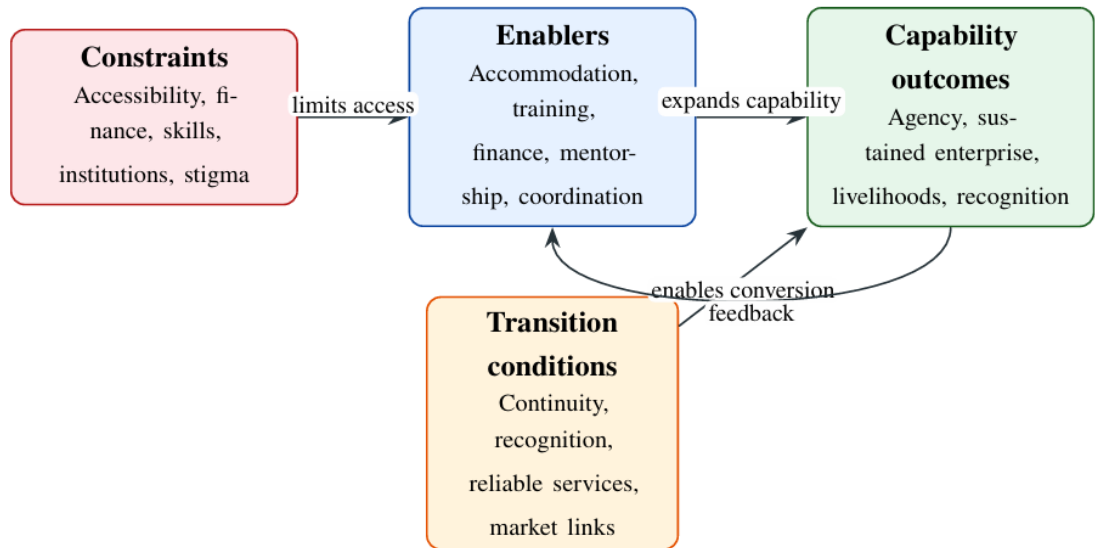


Figure 1: From Disability to Capability framework for entrepreneurial participation among persons with disabilities in Sri Lanka’s Western Province.

4.2 Empirical conclusions supported by the results

The results indicate that entrepreneurial participation is not determined by impairment status alone; it is shaped by interacting domains of accessibility, institutional responsiveness, skills formation, and financial inclusion. The proposed framework, therefore, emphasizes a transition logic: capability expands when enabling mechanisms are delivered in a coordinated manner and sustained through clear transition conditions (Figure 1). These findings provide a structured basis for policy and program design targeting inclusive entrepreneurship within the Western Province.

5. Conclusions

This study developed an empirically grounded framework to explain how persons with disabilities transition from constrained participation to entrepreneurial capability within the Western Province of Sri Lanka. Drawing on evidence from a heterogeneous sample and guided by a capability-oriented analytical lens, the framework demonstrates that entrepreneurial participation is shaped not by impairment alone, but by the interaction of structural constraints, institutional arrangements, and enabling mechanisms operating over time.

The findings highlight that accessibility, financial inclusion, skills readiness, institutional responsiveness, and social norms collectively influence entrepreneurial pathways. Importantly, the results show that isolated interventions are insufficient to

produce sustained outcomes. Instead, capability expansion occurs when enabling mechanisms are delivered in a coordinated manner and supported by transition conditions that ensure continuity, reasonable accommodation, and reliable access to markets. The proposed framework therefore shifts attention from individual adaptation toward systemic alignment, offering a structured explanation of how entrepreneurial agency can be enabled under conditions of disability. From a theoretical perspective, the study extends inclusive entrepreneurship literature by operationalising the Capability Approach within an entrepreneurship context, demonstrating how capabilities emerge through institutional and social processes rather than individual traits. Methodologically, the framework contributes a replicable analytical structure that can be applied to other regional or national contexts with comparable institutional characteristics. While the study is grounded in the Western Province, its insights have broader relevance for policymakers, development practitioners, and enterprise support organisations seeking to design disability-inclusive entrepreneurship initiatives. Future research may apply the framework in other provinces or comparative settings, incorporate longitudinal designs to examine capability trajectories over time, or integrate quantitative modelling to test relationships between framework domains. Overall, the framework provides a coherent basis for understanding and supporting entrepreneurial participation among persons with disabilities, reframing disability from a condition of limitation to one of potential capability expansion when enabling systems are appropriately aligned.

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Regulatory and Legal Barriers Affecting Women Entrepreneurs in Sri Lanka's Marketing Sector

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Abstract

Women's entrepreneurship has been widely recognised as a critical driver of inclusive economic growth, innovation, and employment generation. In Sri Lanka, women entrepreneurs play an increasingly visible role in the marketing industry, including advertising services, digital marketing, branding consultancies, retail promotion, and influencer-led microenterprises. Despite this growth, women entrepreneurs continue to experience disproportionately low participation rates and constrained business scalability compared to their male counterparts. Existing scholarship has largely attributed this disparity to socio-cultural norms, limited access to finance, and work-family balance challenges, while the role of law and regulation has received comparatively limited empirical attention. This study addresses this gap by examining the legal and regulatory barriers faced by women entrepreneurs operating within Sri Lanka's marketing industry through a conceptual framework that links legal barriers, compliance behaviour, and entrepreneurial outcomes.

The study adopts a mixed-methods approach combining doctrinal legal analysis with empirical data collected from women entrepreneurs engaged in marketing-related businesses across Sri Lanka. Primary data were gathered through semi-structured interviews and a structured survey, while secondary data included statutory provisions, regulatory guidelines, policy documents, and judicial interpretations relevant to business registration, labour regulation, taxation, contractual enforcement, and digital marketing governance. Guided by a set of theoretically grounded hypotheses, the findings reveal that women entrepreneurs encounter multifaceted legal barriers,

including complex business registration procedures, gender-neutral but substantively unequal regulatory frameworks, limited access to collateral-based finance due to property and inheritance practices, rigid labour law compliance requirements, and regulatory uncertainty in digital and influencer marketing activities. These barriers are further compounded by low levels of legal awareness and limited access to affordable legal support.

The study contributes to the entrepreneurship and legal studies literature by providing sector-specific, gender-sensitive insights into how legal frameworks shape entrepreneurial participation and compliance behaviour in Sri Lanka's marketing industry. It further offers policy and legal reform recommendations aimed at enhancing regulatory inclusivity, improving legal literacy, and supporting sustainable women-led enterprises. The findings have implications for policymakers, regulators, and entrepreneurship support institutions seeking to promote women's economic empowerment within emerging service sectors.

Keywords: *Women entrepreneurs; regulatory barriers; marketing industry; SME compliance; digital marketing regulation; Sri Lanka*

1. Introduction

This article examines the key legal and regulatory barriers affecting women entrepreneurs in Sri Lanka's marketing sector, analyses the impact of business, labour, financial, and digital marketing regulations on women-owned enterprises, explores the interaction between gender, legal compliance, and entrepreneurial sustainability, and proposes legal and policy reforms to promote greater regulatory inclusivity.

Women's entrepreneurship has emerged as a critical component of inclusive economic growth, innovation, and employment creation across both developed and developing economies. In recent decades, policy discourse at global and national levels has increasingly recognised the role of women-led enterprises in enhancing productivity, diversifying markets, and fostering socio-economic empowerment. In Sri Lanka, women constitute a significant proportion of the educated workforce and are actively engaged in small and medium-sized enterprises (SMEs). Nevertheless, women's participation in entrepreneurial activity remains comparatively low, and women-owned businesses often exhibit slower growth trajectories and higher vulnerability when

compared to male-owned enterprises. (Ahl, 2006; Brush et al., 2009; Shane and Venkataraman, 2000).

The marketing industry represents one of the fastest-growing and most accessible sectors for women entrepreneurs in Sri Lanka. The sector encompasses a broad range of activities, including advertising services, branding and communications consultancies, digital and social media marketing, retail promotion, content creation, and influencer-driven microenterprises (De Mel et al., 2012; World Bank, 2020; UNDP, 2020). The relatively low entry barriers, increasing digitisation, and demand for creative and communication-based services have enabled many women to enter this industry as sole proprietors or SME operators. Despite this apparent accessibility, women entrepreneurs in the marketing sector face persistent structural and institutional challenges that limit their capacity to formalise, scale, and sustain their businesses.

Existing academic literature and policy discussions in Sri Lanka have largely explained these challenges through socio-cultural and economic lenses, emphasising factors such as gender norms, family responsibilities, limited access to finance, and deficiencies in entrepreneurial skills. While these factors are undoubtedly significant, such explanations often overlook the role of law and regulation in shaping entrepreneurial opportunities and constraints. Legal frameworks governing business registration, labour relations, taxation, contractual enforcement, intellectual property, and digital commerce play a decisive role in determining how entrepreneurs enter markets, comply with regulatory obligations, and manage risk. For women entrepreneurs, these ostensibly gender-neutral legal regimes may produce substantively unequal outcomes due to pre-existing gender disparities in asset ownership, legal literacy, time availability, and access to professional support. (Welter, 2011; Ahl and Nelson, 2015). In the context of the marketing industry, legal and regulatory issues acquire particular importance. Marketing-related enterprises frequently operate at the intersection of formal and informal economic activity, especially in areas such as freelance advertising services, digital marketing, and influencer-based promotion. Regulatory uncertainty surrounding digital platforms, advertising standards, consumer protection, data privacy, and taxation further complicates compliance for small-scale women entrepreneurs. Moreover, labour law obligations, including those relating to employee benefits and social security contributions, may impose disproportionate compliance burdens on micro and small enterprises operated by women. The cumulative effect of these legal and regulatory challenges may discourage formalisation, constrain business growth,

and increase exposure to legal and financial risk. (OECD, 2017; World Bank, 2022; Sri Lanka Export Development Board, 2020).

Despite the growing body of research on women's entrepreneurship in Sri Lanka, there remains a notable gap in sector-specific, empirically grounded legal analysis of women entrepreneurs in service-oriented industries such as marketing. Much of the existing literature adopts a general SME perspective or concentrates on manufacturing and rural enterprises, with limited attention paid to the distinctive regulatory environments of emerging service sectors. Furthermore, legal studies addressing business regulation in Sri Lanka have rarely incorporated a gender-sensitive analytical lens or examined how regulatory compliance is experienced differently by women entrepreneurs.

Against this backdrop, this study seeks to examine the legal and regulatory barriers faced by women entrepreneurs operating within Sri Lanka's marketing industry. By combining doctrinal legal analysis with empirical evidence from women entrepreneurs, the study aims to provide a nuanced understanding of how law and regulation influence entrepreneurial participation, compliance behaviour, and business sustainability. The study is guided by the following research objectives and questions, which seek to contribute to both entrepreneurship scholarship and policy-oriented legal reform discourse in Sri Lanka.

1.1 Research Objectives

- To identify the key legal and regulatory barriers faced by women entrepreneurs in Sri Lanka's marketing industry.
- To analyse how existing business, labour, financial, and digital marketing regulations affect women-owned marketing enterprises.
- To examine the interaction between gender, legal compliance, and entrepreneurial sustainability.
- To propose legal and policy reforms to enhance regulatory inclusivity for women entrepreneurs.

1.2 Research Questions

1. What legal and regulatory challenges do women entrepreneurs encounter in the marketing industry of Sri Lanka?

2. How do existing legal frameworks disproportionately affect women-owned marketing businesses?
3. In what ways do legal barriers influence business growth, compliance behaviour, and entrepreneurial decision-making among women entrepreneurs?
4. What legal and policy reforms can better support women's participation in Sri Lanka's marketing sector?

2. Literature Review

2.1 Women Entrepreneurship and Legal Frameworks

Women entrepreneurship has been widely examined within the fields of development economics, gender studies, and entrepreneurship research, with scholars emphasising its contribution to economic growth, employment creation, innovation, and women's empowerment. Early studies predominantly focused on individual-level determinants such as motivation, risk-taking behaviour, education, and managerial skills. More recent scholarship, however, has shifted attention towards structural and institutional factors that shape entrepreneurial opportunities and constraints, including legal and regulatory frameworks. (Ahl, 2006; Brush et al., 2019; Welter, 2011).

Law plays a central role in structuring entrepreneurial activity by determining who can enter markets, under what conditions businesses may operate, and how risks are allocated. Legal regimes governing business registration, property ownership, contract enforcement, taxation, labour relations, and access to finance directly influence entrepreneurial decision-making. While most contemporary legal systems adopt formally gender-neutral rules, feminist legal scholars argue that such neutrality often obscures deeper structural inequalities that affect women entrepreneurs disproportionately. As a result, women may experience legal barriers that are indirect, systemic, and embedded within broader regulatory frameworks rather than explicitly discriminatory in nature.

Recent global research further highlights that regulatory complexity disproportionately affects women-led SMEs, particularly in service sectors characterised by digital platforms and flexible employment models (OECD, 2021; World Bank, 2023).

2.2 Gender-Neutral Laws and Substantive Inequality

A key theme in the literature concerns the distinction between formal legal equality and substantive equality. Although laws regulating entrepreneurship are typically drafted in gender-neutral terms, their practical application may produce unequal outcomes due to pre-existing gender disparities in asset ownership, income, time availability, and access to legal and professional networks. Scholars have noted that regulatory compliance frameworks often assume that entrepreneurs possess similar levels of financial capacity, legal literacy, and institutional support, assumptions that frequently do not reflect women's lived realities.

Collateral-based lending requirements provide a prominent example of how gender-neutral legal frameworks may disadvantage women entrepreneurs. Where access to finance depends on ownership of immovable property or other high-value assets, women entrepreneurs may face structural exclusion due to unequal inheritance practices and socio-cultural norms affecting property ownership. Similarly, complex business registration procedures, licensing requirements, and reporting obligations may impose higher transaction costs on women entrepreneurs, particularly those balancing entrepreneurial activity with unpaid care and household responsibilities. The literature, therefore, highlights the need for gender-sensitive regulatory analysis that goes beyond formal equality to assess the substantive impact of legal rules. (Klapper and Parker, 2011; World Bank, 2020).

Although Sri Lankan commercial and labour laws are formally gender-neutral, their operational impact may differ significantly across gender groups. Women entrepreneurs in the marketing sector often operate micro or home-based enterprises with limited capital, restricted access to property ownership, and constrained time availability due to unpaid care responsibilities. As a result, compliance obligations such as collateral requirements for bank loans, statutory reporting obligations, and employee benefit registrations may create disproportionately higher administrative and financial burdens for women-led enterprises.

2.3 Regulatory Barriers, SMEs, and Entrepreneurial Sustainability

Small and medium-sized enterprises are particularly vulnerable to regulatory burdens due to limited administrative capacity, financial constraints, and restricted access to professional advisory services. Studies examining the relationship between regulation

and SME performance consistently identify excessive compliance costs, fragmented regulatory authority, and uncertainty in enforcement as key barriers to business sustainability. These challenges are often magnified for women-owned SMEs, which may operate with smaller capital bases and weaker institutional support structures. (OECD, 2017; ILO, 2018).

Empirical research further suggests that burdensome regulatory environments may discourage business formalisation, prompting entrepreneurs to remain in the informal sector despite the long-term risks associated with informality. For women entrepreneurs, informality may appear attractive as a means of avoiding complex legal obligations; however, it simultaneously limits access to finance, legal protection, and growth opportunities. The literature thus calls for proportionate and simplified regulatory frameworks that recognise the realities of micro and small enterprises, particularly those operated by women.

2.4 Legal Challenges in the Marketing and Digital Economy

The marketing industry presents a distinctive regulatory environment shaped by rapid technological change, digitalisation, and platform-based business models. Legal scholarship on the digital economy highlights regulatory uncertainty in areas such as advertising standards, consumer protection, data privacy, intellectual property, taxation of digital services, and platform governance. For small-scale marketing enterprises, compliance with these evolving regulatory regimes can be particularly challenging due to limited resources and legal expertise. (OECD, 2017; World Bank, 2022; ASCSL, 2018).

Women entrepreneurs engaged in digital marketing, social media management, content creation, and influencer-based promotion may face heightened legal vulnerability arising from unclear regulatory guidance and inconsistent enforcement. Contractual insecurity, delayed payments, weak intellectual property protection, and lack of standardised contractual practices further exacerbate legal risk within the marketing sector. The literature indicates that these challenges are often intensified for women entrepreneurs, who may have reduced access to legal advice and weaker bargaining power in commercial relationships.

2.5 Sri Lankan Legal and Policy Context

Sri Lanka's legal framework governing entrepreneurship comprises a complex network of statutes, regulations, and administrative practices relating to business registration, taxation, labour law, social security, and commercial transactions. In recent years, policy initiatives have sought to promote SME development and women's entrepreneurship as part of broader economic development strategies. However, legal and regulatory reforms have largely adopted a sector-neutral and gender-neutral approach, with limited attention to the differentiated impact of regulation on women entrepreneurs. (Central Bank of Sri Lanka, 2021; Ministry of Women and Child Affairs, 2021).

Existing Sri Lankan studies on women entrepreneurship have primarily focused on rural enterprises, microfinance, and socio-cultural barriers, with comparatively little attention paid to legal and regulatory constraints, particularly in urban and service-sector contexts. Legal scholarship on business regulation in Sri Lanka has similarly tended to prioritise efficiency, investment facilitation, and ease of doing business, often overlooking issues of gender inclusion and regulatory accessibility. This gap is particularly evident in relation to the marketing industry, which occupies a hybrid space between formal regulation and informal economic practice.

2.6 Research Gap

The foregoing review demonstrates that while there is a substantial body of literature on women entrepreneurship, regulatory barriers, and SME development, there remains a significant gap in sector-specific, gender-sensitive legal analysis focusing on women entrepreneurs in Sri Lanka's marketing industry. Existing studies rarely integrate doctrinal legal analysis with empirical evidence from women entrepreneurs, nor do they adequately account for the distinctive regulatory challenges associated with marketing and digital services. This study addresses this gap by examining how legal and regulatory frameworks shape the entrepreneurial experiences of women in Sri Lanka's marketing sector, thereby contributing to entrepreneurship scholarship, legal studies, and policy-oriented regulatory reform discourse.

2.7 Conceptual Framework

Drawing on institutional theory, feminist legal theory, and entrepreneurship literature, this study proposes a conceptual framework to explain how legal and regulatory barriers

influence the entrepreneurial outcomes of women operating in Sri Lanka's marketing industry. The framework recognises law as a central institutional structure that shapes entrepreneurial behaviour, compliance decisions, and business sustainability.

Within this framework, legal and regulatory barriers constitute the primary independent variables and include business registration and licensing requirements, access-to-finance regulations, labour law obligations, contractual enforcement mechanisms, and regulatory frameworks governing digital and marketing activities. Although these legal regimes are formally gender-neutral, their practical operation may generate substantively unequal outcomes for women entrepreneurs due to pre-existing gender disparities in asset ownership, legal literacy, and access to professional support.

These legal barriers influence entrepreneurial compliance behaviour, including decisions relating to business formalisation, contracting practices, employment arrangements, and regulatory adherence. Compliance behaviour, in turn, affects entrepreneurial outcomes, particularly business growth, sustainability, risk exposure, and capacity for innovation within the marketing sector.

The framework further recognises legal awareness and access to advisory support as moderating variables that may either mitigate or exacerbate the impact of legal barriers. Women entrepreneurs with higher levels of legal awareness or access to affordable legal services may be better positioned to navigate regulatory complexity and reduce compliance-related risks.

Accordingly, the conceptual framework posits that legal and regulatory barriers indirectly affect entrepreneurial performance through their influence on compliance behaviour, while legal awareness moderates this relationship. This framework provides the analytical foundation for the hypotheses tested in this study.

The conceptual framework follows a Barrier–Behaviour–Outcome (BBO) logic widely applied in entrepreneurship and institutional research. Within this framework, legal and regulatory barriers constitute structural constraints that shape entrepreneurial behaviour. These barriers influence compliance behaviour, including decisions relating to formalisation, contractual practices, employment structures, and regulatory engagement. Entrepreneurial behaviours then affect business outcomes such as growth potential, risk exposure, sustainability, and innovation capacity. Thus, legal and regulatory risks influence entrepreneurial outcomes indirectly through their impact on behavioural responses to regulatory environments.

Conceptual framework illustrating the relationship between legal and regulatory barriers, entrepreneurial compliance behaviour, and entrepreneurial outcomes among women entrepreneurs in Sri Lanka's marketing industry, with legal awareness and access to legal advisory support as a moderating variable.

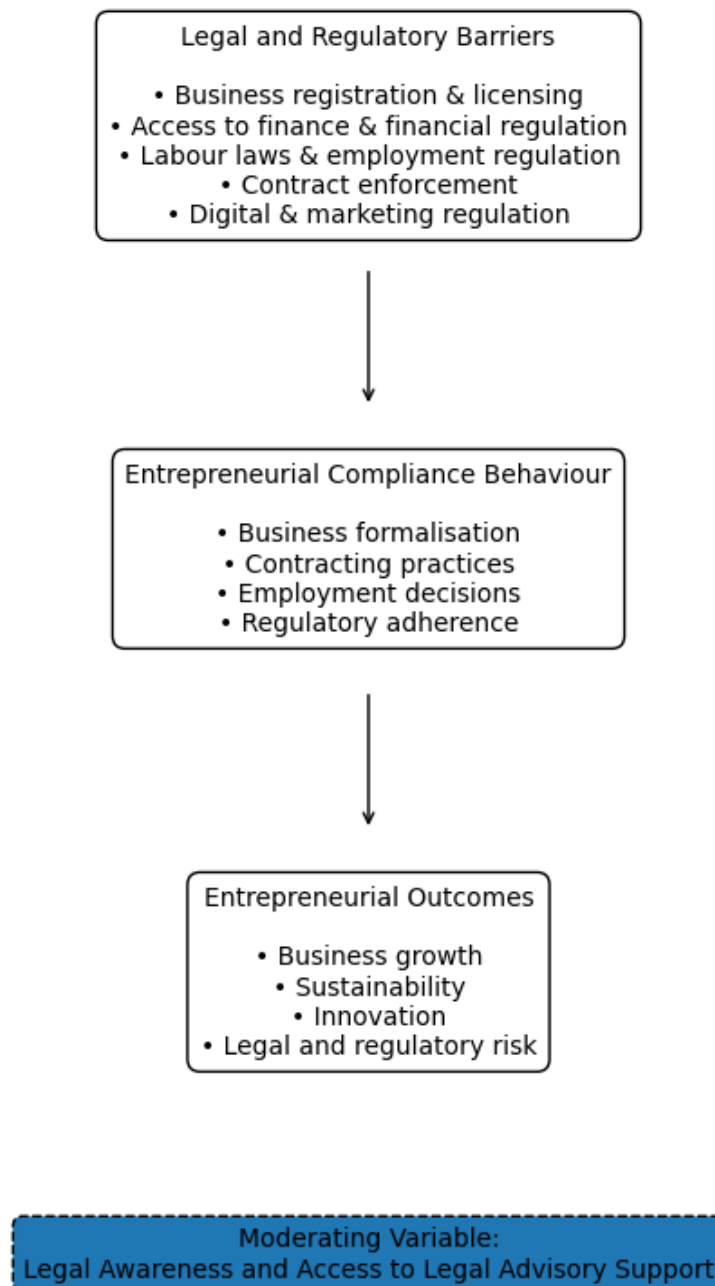


Figure 1 :Conceptual framework

Source: Developed by the authors.

2.8 Hypotheses and Propositions Development

Because this study adopts a mixed-methods design combining quantitative survey analysis with qualitative interviews, hypotheses are used to guide the quantitative examination of relationships between variables, while propositions guide the qualitative exploration of legal and regulatory experiences among women entrepreneurs in marketing.

Quantitative

Based on the conceptual framework and the literature reviewed, the following hypotheses are proposed:

H1:

Legal and regulatory barriers have a significant negative impact on the formalisation and contractual security of women-owned marketing enterprises in Sri Lanka.

H2:

Complex business registration and licensing requirements are negatively associated with compliance behaviour among women entrepreneurs in the marketing industry.

H3:

Collateral-based financial regulations significantly constrain access to finance for women entrepreneurs, thereby limiting business growth and scalability.

H4:

Labour law compliance requirements impose disproportionate administrative and cost burdens on women-owned marketing enterprises.

H5:

Regulatory uncertainty in digital and marketing-related activities increases legal risk and discourages innovation among women entrepreneurs.

H6:

Legal awareness and access to legal advisory support moderate the relationship between legal barriers and entrepreneurial outcomes, such that higher legal awareness reduces the negative impact of regulatory barriers.

Qualitative

The qualitative interviews provided deeper insights into how women entrepreneurs experience regulatory barriers in practice. These insights are presented as propositions that complement the quantitative hypotheses and highlight patterns emerging from the interview data.

Proposed qualitative propositions are as follows:

P1:

Women entrepreneurs in the marketing sector perceive regulatory procedures as complex and time-consuming, which discourages full compliance with formal business registration and licensing requirements.

P2:

Limited ownership of collateral assets among women entrepreneurs contributes to difficulties in accessing formal financial services and credit facilities.

P3:

Women entrepreneurs rely heavily on informal networks and peer advice rather than formal legal advisory services when navigating regulatory requirements.

P4:

Regulatory ambiguity surrounding digital marketing, advertising practices, and online business activities creates uncertainty and increases perceived legal risk among women entrepreneurs.

P5:

Women entrepreneurs with greater legal awareness or prior exposure to legal processes demonstrate higher levels of regulatory compliance and business formalisation.

3. Methodology

3.1 Research Design

This study adopts a mixed-methods research design combining doctrinal legal analysis with empirical investigation. The mixed-methods approach is particularly suitable for examining legal barriers faced by women entrepreneurs, as it enables an integrated analysis of both the formal legal framework and the lived experiences of those subject to regulatory compliance. By triangulating legal texts with empirical data, the study provides a nuanced understanding of how law operates in practice within Sri Lanka's marketing industry.

Mixed-methods research designs are widely used in entrepreneurship studies examining regulatory environments because they enable the integration of legal analysis with empirical evidence from entrepreneurs (Creswell and Plano Clark, 2018; Shepherd and Wiklund, 2020). Such an approach is particularly appropriate when analysing institutional influences on entrepreneurial behaviour.

3.2 Doctrinal Legal Analysis

The doctrinal component of the study involves a systematic analysis of Sri Lankan statutes, regulations, policy documents, and relevant judicial decisions governing entrepreneurial activity. Particular attention is paid to laws relating to business registration and licensing, labour relations, taxation, access to finance, contract enforcement, intellectual property, and digital and advertising regulation. This analysis seeks to identify regulatory provisions that may function as direct or indirect barriers to women entrepreneurs, with a focus on issues of accessibility, compliance complexity, and gendered impact.

3.3 Empirical Research Approach

The empirical component of the study is designed to capture the experiences and perceptions of women entrepreneurs operating within the marketing industry of Sri Lanka. A combination of a structured survey and semi-structured interviews is employed to gather primary data. This approach allows for both breadth and depth of analysis, enabling the identification of common patterns as well as context-specific challenges.

3.4 Sampling and Data Collection

The study population consists of women entrepreneurs engaged in marketing-related activities, including advertising agencies, branding and communications consultancies, digital marketing firms, freelance marketing professionals, social media managers, and influencer-led microenterprises. A purposive sampling technique is used to select participants who meet the criteria of being women-owned or women-led enterprises operating within Sri Lanka. Survey data are collected from a broad sample of women entrepreneurs, while in-depth interviews are conducted with a smaller subset to gain deeper qualitative insights into legal and regulatory challenges.

Primary data collection is supplemented by secondary data sources, including government reports, policy papers, regulatory guidelines, and industry publications relevant to entrepreneurship and marketing.

3.5 Data Analysis

Quantitative survey data were analysed using descriptive statistical techniques to identify trends and patterns in regulatory challenges faced by women entrepreneurs. Qualitative data obtained from interviews were analysed thematically, allowing for the identification of recurring legal and regulatory issues and their perceived impact on business operations, growth, and sustainability. The findings from the empirical analysis were then integrated with the doctrinal legal analysis to assess the alignment or divergence between formal legal provisions and practical experiences.

3.6 Ethical Considerations

Ethical considerations are central to the research process. Participation in the study is voluntary, and informed consent was obtained from all participants before data collection. Participants were assured of confidentiality and anonymity, and no personally identifiable information was disclosed in the reporting of findings. The study adhered to accepted ethical standards for social science and legal research.

4 .Findings and Discussion

This section presents and interprets the empirical findings in relation to the hypotheses developed in Section 4. The discussion is organised thematically, with each theme explicitly aligned to the relevant hypotheses and situated within the broader literature on women entrepreneurship and regulatory barriers.

4.1 Business Registration and Licensing Constraints (H1, H2)

The findings indicate that business registration and licensing procedures constitute a significant legal barrier for women entrepreneurs in Sri Lanka's marketing industry. Respondents consistently reported that registration processes were complex, time-consuming, and insufficiently adapted to small-scale and service-oriented enterprises. These challenges negatively influenced decisions relating to business formalisation and ongoing regulatory compliance. The findings support Hypotheses H1 and H2 by demonstrating that regulatory complexity discourages formalisation and increases compliance costs for women-owned marketing enterprises.

4.2 Contractual Enforcement and Payment Insecurity (H1)

Difficulties in enforcing contracts and securing timely payments emerged as a recurrent challenge among women entrepreneurs. Many participants relied on informal or verbal agreements, particularly in freelance and short-term marketing engagements, increasing exposure to non-payment and unilateral contract termination. Limited access to affordable legal services further constrained the ability to pursue legal remedies. These findings support Hypothesis H1 by illustrating how legal barriers undermine business sustainability and heighten legal and financial risk for women entrepreneurs.

4.3 Access to Finance and Collateral-Based Lending Laws (H3)

The findings reveal that collateral-based lending requirements significantly restrict access to finance for women entrepreneurs in the marketing sector. Many respondents lacked ownership of immovable property required by formal financial institutions, resulting in reliance on personal savings or informal borrowing. This constrained investment in technology, skills development, and business expansion. The findings provide strong support for Hypothesis H3 and reflect broader patterns of asset-based exclusion embedded within formally gender-neutral financial regulations.

These constraints are particularly pronounced for women entrepreneurs in Sri Lanka due to lower rates of property ownership and inheritance patterns that favour male ownership of land and high-value assets.

4.4 Labour Law Compliance Burdens (H4)

Participants reported uncertainty and administrative burdens associated with labour law compliance, particularly in relation to employee registration, social security contributions, and statutory benefits. These challenges were especially pronounced for micro and small enterprises engaging part-time or freelance workers, which are common within the marketing industry. The findings support Hypothesis H4 by demonstrating that uniform labour regulations impose disproportionate compliance costs on women-owned marketing enterprises.

4.5 Digital Marketing and Influencer Regulation Challenges (H5)

Regulatory ambiguity surrounding digital marketing, online advertising, influencer promotion, and taxation of digital income emerged as a significant concern. Respondents indicated limited awareness of applicable legal obligations and expressed

anxiety regarding compliance and potential sanctions. This uncertainty discouraged experimentation and innovation within digital marketing activities. The findings support Hypothesis H5 by confirming that regulatory uncertainty increases perceived legal risk and constrains entrepreneurial innovation. One interview participant stated: “Most of us learn digital marketing regulations informally. We are never sure what legal rules apply to influencer promotions or sponsored content.”

4.6 Legal Awareness and Advisory Gaps (H6)

Low levels of legal awareness and limited access to affordable legal advisory services were identified as cross-cutting constraints that intensified the impact of other regulatory barriers. Women entrepreneurs with higher legal literacy or access to professional support reported greater confidence in navigating regulatory requirements and managing risk. These findings support Hypothesis H6 by confirming the moderating role of legal awareness in shaping the relationship between legal barriers and entrepreneurial outcomes.

4.7 Doctrinal Legal Analysis of Regulatory Frameworks

The doctrinal legal analysis examined statutory provisions governing business formation, labour relations, financial regulation, and digital marketing practices in Sri Lanka. The analysis focused particularly on statutes such as the Companies Act No. 7 of 2007, Inland Revenue Act No. 24 of 2017, Employees’ Provident Fund Act No. 15 of 1958, and the Consumer Affairs Authority Act No. 9 of 2003.

While these legal instruments are formally gender-neutral, several regulatory requirements may produce indirect barriers for women entrepreneurs operating in the marketing sector. For example, company incorporation and tax registration procedures require formal documentation, compliance reporting, and financial disclosures that may be disproportionately challenging for micro and small enterprises, often operated by women. Similarly, labour law provisions relating to EPF and ETF contributions assume stable employment relationships, whereas marketing enterprises frequently rely on freelance and project-based work arrangements.

5. Policy and regulatory reform implications

The policy and regulatory reform implications proposed in this section are derived directly from the empirical validation of Hypotheses H1–H6. The findings demonstrate that legal and regulatory barriers influence women entrepreneurs in Sri Lanka’s marketing industry both directly and indirectly through compliance behaviour, with legal awareness playing a moderating role. Accordingly, effective reform must move beyond formal legal equality towards substantively inclusive regulatory design.

5.1 Gender-Sensitive Regulatory Reform (H1, H2)

Consistent with the validation of Hypotheses H1 and H2, policymakers should incorporate gender-sensitive impact assessments into business registration and licensing frameworks. Simplifying registration procedures, expanding one-stop digital registration platforms, and tailoring compliance requirements to micro and small service enterprises would reduce indirect entry barriers faced by women entrepreneurs and encourage formalisation within the marketing sector.

5.2 Reforming Access-to-Finance Frameworks (H3)

The strong empirical support for Hypothesis H3 highlights the need to reform collateral-based lending frameworks that disproportionately exclude women entrepreneurs. Legal and policy measures should promote alternative financing models, including cash-flow-based lending, recognition of movable assets and intellectual property, and strengthened credit guarantee schemes for women-owned enterprises operating in service industries such as marketing.

5.3 Proportionate Labour Law Compliance for SMEs (H4)

In light of the validation of Hypothesis H4, labour regulation should be applied proportionately to enterprise size and operational capacity. Regulatory authorities should issue clearer guidance on labour law obligations applicable to micro and small marketing enterprises, particularly regarding freelance and part-time employment arrangements. Simplified compliance mechanisms and advisory support would reduce regulatory burden without undermining worker protection.

5.4 Clarifying Regulation of Digital and Marketing Activities (H5)

The confirmation of Hypothesis H5 underscores the urgency of developing clear, sector-specific regulatory guidance for digital marketing and influencer-based businesses. Regulators should clarify obligations relating to online advertising standards, consumer protection, data privacy, disclosure requirements, and taxation of digital income. Clear and accessible regulation would reduce legal uncertainty and support innovation among women entrepreneurs.

5.5 Strengthening Legal Awareness and Advisory Support (H6)

The moderating role of legal awareness, as confirmed by Hypothesis H6, highlights the importance of integrating legal literacy initiatives into entrepreneurship development programmes. Collaboration between government agencies, professional bodies, universities, and women's entrepreneurship networks could facilitate targeted legal training, mentoring, and affordable advisory services, enabling women entrepreneurs to navigate regulatory systems more effectively.

Overall, these policy and legal reform measures reinforce the study's central argument that substantively inclusive regulation rather than formally gender-neutral law—is essential for supporting women's entrepreneurship and sustainable enterprise development in Sri Lanka's marketing industry.

6. Conclusion

This study examined the legal and regulatory barriers faced by women entrepreneurs operating within Sri Lanka's marketing industry, a rapidly expanding service sector with significant potential for women's economic participation and employment generation. By adopting a mixed-methods approach that combined doctrinal legal analysis with empirical evidence drawn directly from women entrepreneurs, the study provided a sector-specific and gender-sensitive understanding of how law and regulation shape entrepreneurial experiences in practice. This approach enabled the study to move beyond abstract legal provisions and capture how regulatory frameworks are interpreted, negotiated, and sometimes avoided in everyday business operations.

The findings demonstrate that although Sri Lanka's legal framework governing entrepreneurship is largely gender-neutral in its formal design, its practical operation frequently produces substantively unequal outcomes for women entrepreneurs.

Complex business registration procedures, contractual enforcement challenges, collateral-based financing requirements, labour law compliance burdens, and regulatory uncertainty surrounding digital and marketing activities collectively constrain women's ability to formalise, grow, and sustain their enterprises. These constraints are not experienced in isolation; rather, they interact cumulatively, reinforcing informality, limiting risk-taking, and discouraging long-term investment. The effects of these barriers are further intensified by low levels of legal awareness and limited access to affordable legal advisory support, particularly among small and micro-scale enterprises.

By situating these findings within the broader literature on women's entrepreneurship and regulatory barriers, the study contributes to existing scholarship in three important ways. First, it extends entrepreneurship research by foregrounding law and regulation as critical institutional determinants of women's entrepreneurial behaviour in service-oriented and digitalised industries. Second, it enriches legal scholarship by applying a gender-sensitive analytical lens to business regulation within the Sri Lankan context, demonstrating how formally neutral laws can generate unequal outcomes in practice. Third, it offers empirical insights into the regulatory realities of the marketing industry, a sector that has received limited academic attention despite its growing economic significance and increasing participation of women entrepreneurs.

The policy and legal reform implications advanced in this study highlight the need for gender-responsive regulatory design, proportionate compliance mechanisms for SMEs, improved access to finance, and clearer, more accessible regulation of digital and marketing activities. In particular, strengthening legal literacy initiatives and institutionalised legal advisory support emerges as a critical strategy for enabling women entrepreneurs to engage with regulatory systems more confidently and strategically.

While this study provides valuable insights, it is not without limitations. The empirical component focuses on women entrepreneurs within a specific sector and geographic context, which may limit the generalisability of the findings to other industries or jurisdictions. Future research could adopt comparative approaches across sectors or countries, incorporate longitudinal data to examine regulatory impacts over time, or explore the intersection of legal barriers with other dimensions such as class, geography, and digital access.

The findings demonstrate that gender-neutral legal frameworks do not necessarily produce gender-neutral outcomes. Instead, regulatory structures interact with pre-existing socio-economic inequalities, such as unequal asset ownership, limited legal literacy, and restricted access to professional networks. Consequently, women entrepreneurs in marketing experience higher compliance burdens and greater legal uncertainty compared to larger or male-dominated enterprises.

In conclusion, addressing the legal barriers faced by women entrepreneurs in Sri Lanka's marketing industry requires moving beyond formal legal equality towards substantively inclusive and context-sensitive regulatory frameworks. By recognising and responding to the differentiated impact of law and regulation, policymakers and support institutions can better enable women's entrepreneurial participation, contribute to inclusive economic growth, and strengthen the long-term sustainability of Sri Lanka's evolving marketing sector.

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Digital Entrepreneurship Capabilities, Circular Business Model Innovation, and SME Performance: Evidence from Sri Lanka

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Abstract

This study examines the influence of digital entrepreneurship capabilities on circular business model innovation and SME performance within the Sri Lankan context. Although digital transformation and circular economy practices have gained global attention, empirical evidence from developing economies remains limited. Drawing on the Resource-Based View and Dynamic Capabilities Theory, this study proposes that digital entrepreneurial capabilities serve as strategic resources that enable SMEs to adopt innovative circular practices, which in turn enhance overall performance. Data were collected from 253 SMEs across multiple sectors using a structured questionnaire, and the research model was tested using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings indicate that digital entrepreneurship capabilities significantly and positively influence circular business model innovation, highlighting the importance of digital readiness in supporting sustainable value creation. Circular business model innovation also demonstrates a strong positive effect on SME performance, underscoring its role in improving financial, operational, and environmental outcomes. Furthermore, digital entrepreneurship capabilities directly enhance performance, while circular business model innovation partially mediates this relationship. These results suggest that SMEs achieve higher performance when digital tools and competencies are strategically integrated into circular business models. Overall, the study contributes to the growing literature on digital transformation and circular economy by providing empirical evidence from a developing country perspective. The insights emphasize the need for SMEs to align their digital initiatives with sustainability-oriented innovation to thrive in a rapidly evolving circular and digital future.

Keywords: *Circular Business Model Innovation, Circular Economy, Digital Entrepreneurship Capabilities, Digital Transformation, SME Performance*

1. Introduction

The global business landscape is undergoing rapid transformation driven by digitalization and the transition toward circular economy principles. Digital technologies including artificial intelligence (AI), data analytics, cloud systems, and automation, are reshaping how entrepreneurs create value and scale their ventures (Autio et al., 2018; Bharadwaj et al., 2013). At the same time, environmental pressures and resource constraints are pushing firms toward circular business models that minimize waste and enable regenerative value creation (Bocken et al., 2014; Geissdoerfer et al., 2017; Kirchherr et al., 2017). The intersection of these two trends presents a unique opportunity for SMEs to innovate sustainably and strengthen competitiveness.

In developing countries such as Sri Lanka, SMEs contribute significantly to economic development but often face obstacles related to technology adoption and sustainability practices (Agyapong, 2010; Mahfuz, 2020). Strengthening digital entrepreneurship capabilities such as digital literacy, technological adaptability, and the use of data-driven decision-making, has become essential for enabling circular business model innovation (Li et al., 2018; Tehseen et al., 2021). These capabilities support SME transformation from linear "take–make–dispose" models into circular value systems (Urbinati et al., 2017; Pieroni et al., 2020).

Digital technologies further accelerate circular innovation by enabling efficient resource tracking, predictive maintenance, and closed-loop supply chains (Liu et al., 2024; Ranta et al., 2024). SMEs leveraging digital tools can more effectively implement recycling, eco-design, and resource recovery strategies (Wang & Zhang, 2024). However, the extent to which digital entrepreneurship capabilities drive circular business model innovation among Sri Lankan SMEs remains underexplored. Much of the existing evidence comes from developed and East Asian contexts, leaving a gap in South Asian SME context (Chiaroni et al., 2021; Del Giudice et al., 2021; Bag et al., 2024).

Given the increase in market pressures, technological disruption, and sustainability demands, digital transformation has become a strategic necessity for SMEs (Ross et al., 2017; Majchrzak & Shepherd, 2024). Yet SME adoption of circular economy principles in Sri Lanka remains limited due to lack of awareness, financial constraints, and institutional gaps (Famiyeh et al., 2018; Cantele & Zardini, 2018). These challenges highlight the need for empirical evidence linking digital entrepreneurship, circular business model innovation, and performance outcomes in this context. Identifying the importance of these resources in improving performance will influence more businesses to adopt them in their business activities.

Drawing on the Resource-Based View and Dynamic Capabilities Theory, this study argues that digital entrepreneurship capabilities act as valuable, inimitable resources and dynamic mechanisms that enable SMEs to sense and seize opportunities for sustainable innovation (Peteraf, 1993; Eisenhardt & Martin, 2000; Teece et al., 2016). Understanding this interplay is crucial as Sri Lanka moves toward a digitally enabled and environmentally conscious economic landscape. This study is important for three reasons. First, it addresses a significant empirical gap by investigating the digital–circular–performance relationship in a developing economy. Second, it provides practical insights for SMEs integrating digital tools with sustainability strategies. Third, it advances theory by examining circular business model innovation as a mediator between digital entrepreneurship capabilities and SME performance. In summary, SMEs equipped with strong digital capabilities and circular thinking are better positioned to thrive in the emerging digital and green economy. Accordingly, this study will generate insights for policymakers, practitioners, and SME development institutions.

2. Literature Review

The rapid advancement of digital technologies and the growing global emphasis on sustainability have created new opportunities and challenges for small and medium enterprises (SMEs). Digital transformation enables firms to restructure operations, enhance efficiency, improve decision-making, and innovate more rapidly, while circular economy principles encourage businesses to minimize waste, optimize resource use, and support environmental regeneration (Bharadwaj et al., 2013; Bocken

et al., 2014; Geissdoerfer et al., 2017). As a result, scholars increasingly explore how digital capabilities facilitate sustainable business transitions and strengthen competitive performance among SMEs (Li et al., 2018; Tehseen et al., 2021; Ranta et al., 2024).

Despite this growing interest, empirical research examining the combined digital–circular–performance relationship remains limited, particularly in developing economies such as Sri Lanka. Existing studies are often dominated by evidence from Europe, the United States, and East Asia, leaving a significant gap in understanding how SMEs in resource-constrained contexts leverage digital capabilities to support circular business model innovation. Addressing this gap is essential, given the rising importance of digital readiness and sustainability-oriented innovation for SME competitiveness in emerging markets. Accordingly, this literature review synthesizes past research to examine digital entrepreneurship capabilities, circular business model innovation, SME performance, and the theoretical perspectives that link these constructs. Together, they provide the conceptual basis for the hypotheses and the proposed research framework.

2.1 Digital Entrepreneurship Capabilities (DEC)

Digital entrepreneurship capabilities refer to the technological competencies, skills, and strategic abilities that entrepreneurs leverage to exploit digital tools for value creation, innovation, and transformation (Li et al., 2018; Tehseen et al., 2021). These capabilities include digital literacy, the use of online platforms, data-driven decision-making, cloud-based processes, automation, and the integration of advanced technologies such as analytics and AI. According to the Resource-Based View (RBV), such capabilities qualify as valuable, rare, inimitable, and non-substitutable resources that enhance competitive advantage (Peteraf, 1993; Bharadwaj et al., 2013). Digital Entrepreneurship Capabilities help SMEs scale operations efficiently, improve customer engagement, reduce costs, and respond rapidly to environmental changes (Autio et al., 2018; Garzoni et al., 2020; Zhao et al., 2024).

However, SMEs in developing economies often face digital readiness challenges due to financial constraints, low ICT skills, and limited access to technology (Mahfuz, 2020; Agyapong, 2010). Despite these barriers, firms with higher digital capability demonstrate stronger innovation potential, particularly in sustainable and circular

business model development (Lee & Lim, 2024; Liu et al., 2024). Digital tools enhance transparency, resource tracking, customer insight, and supply chain coordination which are critical enablers of circular strategies (Ranta et al., 2024; Chiaroni et al., 2021). Thus, it is evident that the innovation, particularly sustainable innovation is comparatively higher in an SME which consist of digital capabilities.

2.2 Circular Business Model Innovation (CBMI)

Circular business model innovation involves designing business models that reduce waste, extend product lifecycles, and regenerate natural systems (Geissdoerfer et al., 2017; Kirchherr et al., 2017). Unlike linear models that follow a “take–make–dispose” pattern, circular models emphasize eco-design, reuse, remanufacturing, recycling, resource efficiency, and closed-loop supply chains (Bocken et al., 2014; Urbinati et al., 2017). CBMI can take multiple forms, including product-as-a-service models, reverse logistics, refurbishment systems, biodegradable product lines, and resource recovery frameworks (Pieroni et al., 2020). These innovations promote cost savings, competitive differentiation, and new revenue streams (Cantele & Zardini, 2018; Wang & Zhang, 2024).

However, CBMI adoption among SMEs particularly in developing economies, remains limited due to lack of knowledge, financial constraints, insufficient technology, and weak institutional support (Agyapong, 2010; Famiyeh et al., 2018). While evidence from Europe and East Asia highlights the role of technological capability in enabling CBMI (Chiaroni et al., 2021; Liu et al., 2024), research from South Asian SMEs is scarce, underscoring the need for contextual analysis.

2.3 SME Performance in the Digital and Circular Economy Context

SME performance encompasses financial outcomes, operational efficiency, innovation capability, environmental results, and customer satisfaction (Cantele & Zardini, 2018; Famiyeh et al., 2018). Studies show that adopting circular strategies improves resource efficiency, reduces waste, enhances brand image, and increases competitive advantage (Bocken et al., 2014; Wang & Zhang, 2024). Similarly, digital transformation enhances sales growth, operational productivity, market reach, and responsiveness (Li et al., 2018; Zhao et al., 2024). However, limited research has examined the combined effect

of Digital Entrepreneurship Capabilities and Circular Innovation on performance, particularly in emerging economies (Mahfuz, 2020; Del Giudice et al., 2021). Digital technologies such as IoT, cloud analytics, and automation amplify the effectiveness of circular strategies by enabling real-time resource monitoring, predictive maintenance, and improved recycling processes (Ranta et al., 2024; Liu et al., 2024). This suggests that SME performance outcomes may be strengthened when digital entrepreneurship capabilities drive circular business model innovation.

2.4 Theoretical Foundation

Resource-Based View (RBV): This theory states that competitive advantage arises from resources that are valuable, rare, difficult to imitate, and non-substitutable (Peteraf, 1993). Digital entrepreneurship capabilities meet these criteria, as they improve innovation, speed, efficiency, and responsiveness (Bharadwaj et al., 2013). RBV applied to sustainability research argues that digital capabilities enable firms to develop circular strategies that competitors cannot easily replicate (Cantele & Zardini, 2018; Pieroni et al., 2020).

Dynamic Capabilities Theory: Dynamic capabilities refer to a firm's capacity to sense opportunities, seize them, and reconfigure resources to adapt to environmental change (Eisenhardt & Martin, 2000; Teece et al., 2016). Digital entrepreneurship capabilities operate as dynamic capabilities by enabling firms to adopt technology, redesign business models, and innovate sustainably (Li et al., 2018; Tehseen et al., 2021). Dynamic capabilities thus link digital transformation with circular innovation.

These theories together explain how digital capabilities influence circular business model innovation and SME performance.

Impact of Digital Entrepreneurship Capabilities on CBMI

Digital technologies facilitate CBMI by improving information flow, transparency, resource management, and collaboration across the supply chain (Chiaroni et al., 2021; Ranta et al., 2024). Furthermore, these aid firms to innovate, optimize processes, and respond strategically to changing market conditions (Li et al., 2018; Tehseen et al., 2021). Tools such as e-commerce, cloud computing, IoT, and analytics enable firms to

track product lifecycles and enable closed-loop systems (Wang & Zhang, 2024; Liu et al., 2024). Such digitally capable firms adopt eco-design, remanufacturing, refurbishing, and service-based models more effectively (Pieroni et al., 2020; Bocken et al., 2014). Thus, Digital entrepreneurship capabilities enhance SMEs' capacity to explore and implement circular strategies (Li et al., 2018; Tehseen et al., 2021) and are widely recognized as enablers of circular innovation.

From the RBV perspective, these digital competencies act as valuable, rare, and inimitable resources that help firms develop sustainable competitive advantages (Peteraf, 1993; Bharadwaj et al., 2013). Dynamic Capabilities Theory further suggests that digital entrepreneurship capabilities allow firms to sense opportunities for circular innovation, seize them through technological adoption, and reconfigure resources accordingly (Eisenhardt & Martin, 2000; Teece et al., 2016). Empirical evidence indicates that firms with higher digital entrepreneurship capabilities are more likely to adopt innovative, circular business models, including product-service systems, repair-oriented models, and remanufacturing processes (Bocken et al., 2014; Pieroni et al., 2020). Accordingly, the following hypothesis can be formulated;

H₁: Digital entrepreneurship capabilities positively influence circular business model innovation.

2.5 Impact of CBMI on SME Performance

Circular Business Model Innovation has been linked to financial improvements, cost savings, operational efficiency, customer loyalty, and environmental benefits (Cantele & Zardini, 2018; Geissdoerfer et al., 2017; Wang & Zhang, 2024). Circular practices reduce resource dependency and waste, while improving brand reputation and customer trust (Bocken et al., 2014). For SMEs operating with resource constraints, CBMI can create efficiency and unlock new revenue opportunities (Agyapong, 2010; Famiyeh et al., 2018). However, the benefits of CBMI are maximized when firms possess the digital tools needed to support circular processes (Liu et al., 2024; Ranta et al., 2024). Circular practices such as remanufacturing, refurbishing, recycling, and resource recovery contribute to both operational and financial gains (Famiyeh et al., 2018). Circular business models also enhance competitive advantage by differentiating firms

within increasingly sustainability-conscious markets (Urbinati et al., 2017; Pieroni et al., 2020). Based on this evidence, the following hypothesis can be formulated;

H₂: Circular business model innovation positively influences SME performance.

2.6 Impact of Digital Entrepreneurship Capabilities on SME Performance

Digital entrepreneurship capabilities help SMEs strengthen operational efficiency, expand market reach, enhance decision-making, and accelerate innovation (Li et al., 2018; Tehseen et al., 2021). Digitalization improves customer engagement, streamlines internal processes, and increases a firm's responsiveness to market changes (Autio et al., 2018; Zhao et al., 2024).

From the RBV perspective, digital entrepreneurship capabilities act as strategic resources that produce superior performance outcomes (Peteraf, 1993; Bharadwaj et al., 2013). Research shows that digital tools enhance productivity, sales, customer satisfaction, and competitive positioning among SMEs (Garzoni et al., 2020; Lee & Lim, 2024). Thus, the following hypothesis can be formulated;

H₃: Digital entrepreneurship capabilities positively influence SME performance.

2.7 Mediating Role of CBMI

Digital entrepreneurship capabilities influence performance directly, but their effect may be amplified when mediated by CBMI (Del Giudice et al., 2021; Zhao et al., 2024). Although digital entrepreneurship capabilities directly enhance SME performance, technological strengths often generate the most value when they lead to business model innovation (Del Giudice et al., 2021; Majchrzak & Shepherd, 2024). Digital tools function as enablers, creating opportunities for innovation that produce measurable performance gains (Ranta et al., 2024).

Circular business model innovation may serve as the mechanism through which digital entrepreneurship capabilities translate into superior financial, operational, and environmental outcomes. SMEs with strong digital entrepreneurship capabilities are better positioned to implement sustainable and resource-efficient business models that improve performance (Liu et al., 2024; Wang & Zhang, 2024). Dynamic Capabilities Theory further supports this perspective by emphasizing that performance improves when firms successfully reconfigure their digital and physical resources toward

innovative, sustainability-oriented models (Eisenhardt & Martin, 2000; Teece et al., 2016).

Prior studies on technology and performance suggest frequent mediation effects through innovation (Lee & Lim, 2024; Majchrzak & Shepherd, 2024). However, the mediating role of CBMI in the digital performance relationship remains underexplored in developing economies (Del Giudice et al., 2021; Mahfuz, 2020). This gap highlights the need to examine CBMI as a strategic pathway linking digital capabilities to SME performance. Accordingly, it can be hypothesized that;

H₄: Circular business model innovation mediates the relationship between digital entrepreneurship capabilities and SME performance.

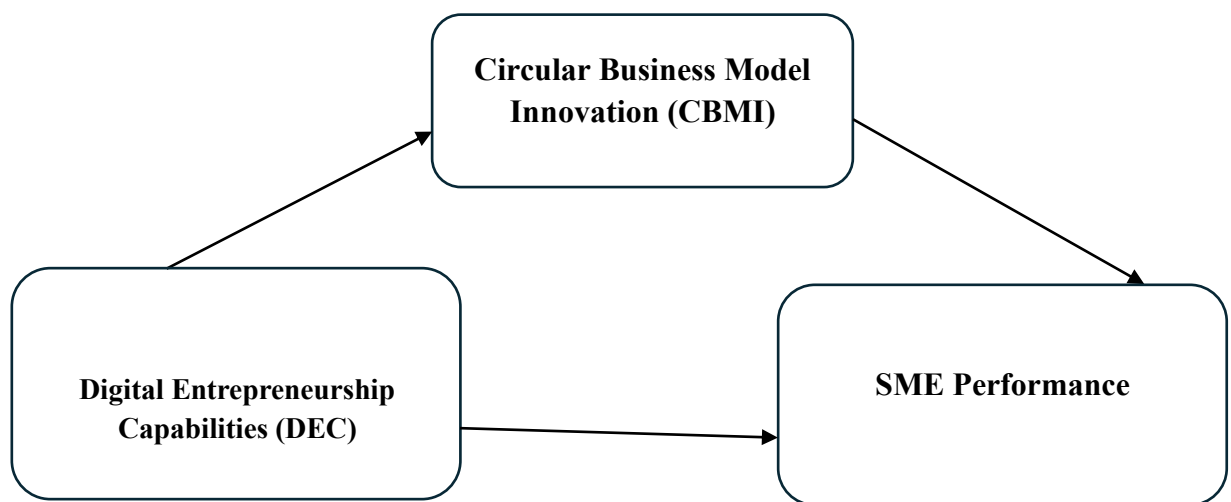


Figure 1: Conceptual Framework

Source: Developed by the authors based on the Resource-Based View (Peteraf, 1993), Dynamic Capabilities Theory (Teece et al., 2016), and prior digital-circular innovation literature (Li et al., 2018; Liu et al., 2024; Ranta et al., 2024).

3. Methodology

3.1 Research Design

This study adopted a quantitative, cross-sectional research design to examine the influence of digital entrepreneurship capabilities on circular business model innovation

and SME performance. A quantitative approach was chosen as appropriate, as it enables hypothesis testing and the assessment of relationships among latent constructs using statistical modeling techniques. Data was collected through a structured questionnaire, which ensured standardization, comparability, and consistency across respondents. The cross-sectional nature of the study indicates that all data were gathered at a single point in time, making this design suitable for capturing contemporary organizational practices and perceptions within Sri Lankan SMEs.

3.2 Population and Sampling

The target population consisted of registered small and medium enterprises operating across Sri Lanka. Given the study's focus on digital adoption and circular practices, purposive and convenience sampling methods were used to select SMEs adopting both digital and circular practices from key sectors such as manufacturing, services, retail, ICT, apparel, food and beverage, and tourism. This sampling strategy ensured that participants had exposure to, or engagement with, digital technologies and sustainability-related business activities.

Questionnaires were administered to individuals with adequate knowledge of organizational processes, typically owners, managers, or supervisors. A total of 312 questionnaires were distributed. Of these, 271 were returned, resulting in a response rate of 86.9%. Consequently, with the data screening for completeness and response consistency, 253 valid questionnaires were retained for analysis. A sample size of 253 exceeds the minimum recommended threshold for Partial Least Squares Structural Equation Modeling (PLS-SEM), which generally requires at least 200 responses for complex mediation models.

3.3 Data Collection Method

Data collection was conducted over a six-week period using a combination of online and physical distribution methods to maximize reach and inclusivity. The online version of the questionnaire, created using Google Forms, received 180 responses, while physical distribution through business networks and SME associations generated an additional 91 responses. Of the 271 total responses, 253 were deemed valid for analysis. The instrument was intentionally designed to be simple, clear, and accessible to

participants with varying levels of digital familiarity. Participation was voluntary, and informed consent was obtained from all respondents before distributing the questionnaire.

The survey instrument comprised four major sections prepared using prior validated scales and consisted of 04 sections. Section A consisted of questions relating to Demographic Characteristics such as firm size, industry classification, and operational duration. Section B consisted of questions relating to the Independent Variable Digital Capabilities. This variable was measured using 15 items adapted from previously validated scales covering digital literacy, digital innovation ability, platform usage, and data-driven decision-making. Responses were recorded on a 5-point Likert scale. Section C comprised the mediator: Circular Business Model Innovation (CBMI) assessed through 12 items measuring eco-design, reuse, recycling, remanufacturing, and resource recovery practices. The final section consisted of the Dependent Variable: SME Performance measured with 10 items reflecting financial, operational, environmental, and competitive performance dimensions. The use of established measurement scales ensured construct validity and comparability with prior empirical studies.

The study adhered strictly to ethical research guidelines. Participation was voluntary, and respondents were fully informed of the study's purpose before completing the questionnaire. No personally identifiable or sensitive information was collected, ensuring confidentiality and anonymity. All 253 valid responses were handled with strict data protection protocols and used exclusively for academic purposes. Informed consent was obtained from each participant.

3.4 Pilot Study

Before the main data collection, a pilot study was conducted with a sample of 32 SMEs to evaluate the clarity, reliability, and structure of the questionnaire. Participants provided feedback suggesting minor modifications, including rewording of some items to enhance clarity. Reliability analyses from the pilot phase yielded Cronbach's alpha values exceeding the recommended threshold of 0.70 for all constructs, confirming the adequacy and internal consistency of the instrument. The refined questionnaire was thus suitable for full-scale data collection.

4. Results

Descriptive Statistics: Descriptive statistics were generated to summarize the central tendencies and variability of the study's key constructs. Among the 253 SMEs, 66% were small, and 34% were medium enterprises. Industry representation included services (38%), manufacturing (27%), retail (18%), ICT (9%), and other categories (8%). Regarding firm operational duration, 26% of the SMEs had been operating for less than two years, 49% had operated between two and five years, and 25% had been in operation for more than five years. Based on responses from 253 SMEs, mean values ranged from 3.42 to 4.18, indicating moderately high agreement with statements regarding digital entrepreneurship capabilities, circular business model innovation, and SME performance. Standard deviations between 0.62 and 0.91 suggest acceptable dispersion around the mean. These descriptive patterns reflect positive perceptions toward digital adoption, innovation, and sustainability-oriented practices among Sri Lankan SMEs, supporting the relevance of these constructs in the local business environment.

Measurement Model Assessment: Prior to the assessment of the structural relationships, the reliability and validity of the measurement model were examined. All constructs demonstrated strong internal consistency, as shown in Table 1.

Table 1: Reliability and Validity

Variable	Cronbach's α	CR	AVE
Digital Entrepreneurship Capabilities	0.913	0.928	0.602
Circular Business Model Innovation	0.884	0.912	0.595
SME Performance	0.901	0.923	0.614

Source: Survey Results

All the outer loadings exceeded the recommended threshold of 0.70, confirming indicator reliability. Convergent validity was established with all AVE values above 0.50, indicating that the constructs explain sufficient variance in their indicators. Discriminant validity was verified using the HTMT criterion, with all values falling below 0.85, ensuring that constructs measured distinct concepts. Accordingly, the measurement model was deemed robust, reliable, and suitable for structural evaluation.

Structural Model Assessment: The structural model was assessed using SmartPLS 4 with the bootstrapping procedure. The results indicate strong explanatory power. The R^2 for CBMI was 0.56, meaning digital entrepreneurship capabilities explain 56% of the variance in circular business model innovation. And the R^2 for SME Performance was identified as 0.63, meaning that digital entrepreneurship capabilities and CBMI collectively explain 63% of the variance in SME performance. Predictive relevance (Q^2) values for both endogenous constructs exceeded 0.25, indicating medium to high predictive accuracy. These results suggest that the model demonstrates solid explanatory and predictive strength, supporting its suitability for hypothesis testing.

Hypotheses Testing: The study proposed 04 hypotheses at the beginning of the study. The first hypothesis proposed which was to identify whether Digital Entrepreneurship Capabilities positively influence circular business model innovation (H), revealed a strong, positive and significant relationship ($\beta = 0.748$, $t = 14.216$, $p < 0.001$). This suggests that SMEs with higher digital capability levels are significantly more likely to engage in circular innovation. The second hypothesis proposed that there is a positive impact of CBMI on SME performance (H2), which exhibited a significant positive effect ($\beta = 0.519$, $t = 8.931$, $p < 0.001$). Thus, it can be stated that circular innovation contributes meaningfully to financial, operational, and environmental performance improvements.

The hypothesis on the positive impact of Digital Entrepreneurship Capabilities on SME performance also revealed a significant direct impact ($\beta = 0.331$, $t = 5.742$, $p < 0.001$). This finding indicates that digital entrepreneurship capabilities enhance firm performance independently of circular innovation pathways. The addition to the framework, which is the mediation effect of circular business model innovation, was also identified as significant ($\beta = 0.388$, $t = 7.104$, $p < 0.001$). Since both the indirect

and direct effects were significant, CBMI exerts partial mediation. This means that digital entrepreneurship capabilities improve SME performance both directly and indirectly, through enhanced circular business model innovation. The summary of these results is indicated in Table 3.

Table 2: Summary of Hypothesis Testing

Hypothesis	Relationship	β -value	t-value	p-value	Result
H1	DEC \rightarrow CBMI	0.748	14.216	<0.001	Supported
H2	CBMI \rightarrow Performance	0.519	8.931	<0.001	Supported
H3	DEC \rightarrow Performance	0.331	5.742	<0.001	Supported
H4	DEC \rightarrow CBMI \rightarrow Performance (Mediation)	0.388	7.104	<0.001	Supported

Source: Survey Results

5. Discussion

5.1 Digital Entrepreneurship Capabilities and Circular Business Model Innovation

The study findings reveal that digital entrepreneurship capabilities have a strong and positive effect on circular business model innovation ($\beta = 0.748$, $p < 0.001$). This supports the Dynamic Capabilities Theory, which proposes that firms with advanced digital competencies are better able to sense, seize, and reconfigure resources for sustainable innovation (Eisenhardt & Martin, 2000; Teece et al., 2016). The result also aligns with global research demonstrating that digital tools such as data analytics, cloud systems, automation, and digital platforms enable eco-design, recycling, resource recovery, and closed-loop systems (Chiaroni et al., 2021; Liu et al., 2024).

Within the Sri Lankan context, this relationship has particular significance. SMEs with stronger digital maturity appear more capable of adopting circular models due to improved information flow, transparency, and operational integration enabled by digital technologies (Ranta et al., 2024; Wang & Zhang, 2024). These findings reinforce the

argument that digital entrepreneurship capabilities act as catalysts for transitioning from linear to circular systems (Pieroni et al., 2020).

5.2 Circular Business Model Innovation (CBMI) and SME Performance

The results show that CBMI significantly enhances SME performance ($\beta = 0.519$, $p < 0.001$). This is consistent with prior literature suggesting that circular practices increase efficiency, reduce waste, and enhance competitiveness (Bocken et al., 2014; Geissdoerfer et al., 2017). For SMEs, especially those in developing economies with limited resources, circular strategies such as reuse, remanufacturing, and recycling can substantially reduce operational costs and resource dependency (Famiyeh et al., 2018; Cantele & Zardini, 2018).

The findings further demonstrate that circular business models generate financial, operational, and environmental benefits, supporting the argument that the circular economy offers both sustainability and profitability advantages (Urbinati et al., 2017; Wang & Zhang, 2024). This reinforces CBMI as a strategic pathway for enhancing SME competitiveness in emerging markets.

5.3 Digital Entrepreneurship Capabilities and SME Performance

The study confirms that digital entrepreneurship capabilities positively and significantly influence SME performance ($\beta = 0.331$, $p < 0.001$). This aligns with the Resource-Based View, which positions digital entrepreneurship capabilities as valuable, rare, inimitable, and non-substitutable resources that drive superior performance (Peteraf, 1993; Bharadwaj et al., 2013). These capabilities enable firms to improve efficiency, customer engagement, responsiveness, and innovation (Autio et al., 2018; Garzoni et al., 2020).

In Sri Lanka, where SMEs often operate in volatile markets with limited physical resources, digital transformation plays an essential role in improving resilience and growth potential (Mahfuz, 2020; Agyapong, 2010). The findings support the growing view that digitalization is no longer optional but a strategic requirement for SMEs seeking to enhance operational processes and expand market reach (Lee & Lim, 2024; Zhao et al., 2024).

5.4 Mediating Role of Circular Business Model Innovation

A key contribution of this study is the identification of CBMI as a partial mediator between digital entrepreneurship capabilities and SME performance ($\beta = 0.388$, $p < 0.001$). This suggests that while digital entrepreneurship capabilities directly enhance performance, they also do so indirectly through circular innovation. The finding supports the theoretical argument that digital technologies create opportunities for business model transformation, and it is these innovative changes, particularly circular strategies that generate substantial performance gains (Del Giudice et al., 2021; Majchrzak & Shepherd, 2024).

The partial mediation emphasizes that digital tools alone are insufficient to produce meaningful performance improvements; instead, SMEs must strategically integrate digital entrepreneurship capabilities into sustainability-driven and circular business activities (Pieroni et al., 2020; Ranta et al., 2024). This mechanism offers deeper insight into how digital entrepreneurship capabilities translate into sustainable competitiveness in resource-constrained environments.

The results collectively highlight the pivotal role of digital entrepreneurship capabilities in shaping both circular innovation and SME performance. The strong effect of digital entrepreneurship capabilities on CBMI underscores that SMEs with advanced digital competencies are better equipped to adopt circular practices such as eco-design, resource recovery, reuse, and remanufacturing. Digital tools appear essential for enabling transparency, data-driven decision-making, and operational efficiency, all of which facilitate circular strategies.

Furthermore, circular business model innovation demonstrated a substantial positive effect on SME performance, reinforcing the value of circular approaches in enhancing operational efficiency, reducing costs, improving environmental outcomes, and strengthening competitive positioning. The identification of CBMI as a partial mediator further confirms that digital entrepreneurship capabilities yield the greatest benefits when they lead to innovative and sustainability-oriented transformations within SME

business models. Overall, the findings provide strong empirical evidence that digital transformation and circular innovation are complementary strategic pathways that jointly enhance SME performance in resource-constrained environments such as Sri Lanka.

6. Implications

Theoretical Implications: This study makes several meaningful contributions to theory. With the examination of digital entrepreneurship capabilities and circular business model innovation within a unified framework, the study enriches a research domain where these two areas have often been treated independently (Nambisan, 2017; Pieroni et al., 2020). Furthermore, the results validate the argument that digital competencies function as strategic resources and dynamic capabilities that enhance a firm's ability to innovate sustainably (Bharadwaj et al., 2013; Teece et al., 2016). This reinforces the relevance of these theories in explaining competitive advantage in the digital–circular economy.

Given the limited research in South Asia on digital circular relationships, the study fills an important empirical gap by demonstrating how these capabilities shape SME performance in Sri Lanka (Mahfuz, 2020; Agyapong, 2010). Additionally, the identification of circular business model innovation as a mediator offers a theoretical explanation of how digital entrepreneurship capabilities translate into improved performance, which is previously underexplored in developing-country contexts (Liu et al., 2024; Ranta et al., 2024).

Practical Implications: The findings provide actionable insights for SME owners, managers, policymakers, and support organizations. As practical implications for policy owners, the study's findings indicate that training, software tools, automation, and data analytics can enhance innovation and facilitate smooth adoption of circular business practices (Garzoni et al., 2020; Huie & Shabir, 2024). Additionally, practices such as recycling, remanufacturing, refurbishing, and eco-design can reduce costs, improve efficiency, and strengthen competitive positioning (Cantele & Zardini, 2018; Bocken et al., 2014). Accordingly, digital technologies generate maximum value when used to enable sustainability-driven innovation rather than as standalone tools (Chiaroni et al., 2021).

As practical implications for policymakers and government agencies, it can be recommended to expand digital literacy programs, improve broadband access, and provide incentives for technology adoption (Lee & Lim, 2024). Additionally, they can introduce workshops, guidelines, and national circular economy roadmaps tailored to SME needs (Geissdoerfer et al., 2017). SMEs can be encouraged to invest in circular innovations and digital tools through Grants, tax incentives, and low-interest loans. Accordingly, these successful digital circular transformations can motivate wider adoption among SMEs.

Social Implications: The study also highlights that circular business model innovation contributes positively not only to firm performance but also to broader environmental and social outcomes. Higher adoption of circular practices among SMEs can lead to reduced waste generation, conservation of finite natural resources, lower carbon footprints and environmental emissions, and greater public awareness as well as acceptance of sustainable practices. By integrating digital tools into circular models, Sri Lanka can move closer to achieving national sustainability goals and transitioning toward a greener, more resource-efficient economy.

6.1 Limitations and Directions for Future Research

Although this study offers meaningful insights into the interplay between digital entrepreneurship capabilities, circular business model innovation, and SME performance in Sri Lanka, several limitations must be acknowledged to contextualize the findings and provide a foundation for future scholarly work. The study adopted a cross-sectional research design, capturing data at a single point in time. While this approach is suitable for identifying associations among variables, it restricts the ability to infer causality or observe how digital and circular practices evolve within SMEs over time. A longitudinal design would enable researchers to examine changes in digital entrepreneurship capabilities, circular practices, and performance outcomes across different economic or technological contexts.

The data was collected through self-reported questionnaires, which may be subject to social desirability bias or subjective overestimation of actual practices. SME owners and managers may have reported higher levels of digital readiness or circular adoption due to perceived expectations. Although anonymity was ensured to reduce such bias,

self-reporting inherently limits objective accuracy. Furthermore, the use of purposive sampling for targeting SMEs likely to have some engagement with digital tools may affect the generalizability of the findings. SMEs operating with minimal technological exposure, informal businesses, or microenterprises in rural settings may not be adequately represented. While the sample size of 253 SMEs is statistically adequate for PLS-SEM analysis, it may not fully reflect the diversity of SME operations across different regions and industries in Sri Lanka.

The study primarily employed perceptual performance measures rather than objective indicators such as revenue growth, profit margins, waste reduction ratios, or operational productivity trends. Although perceptual measures are widely used and valuable, particularly when objective data are difficult to obtain, they may not always align perfectly with actual performance outcomes. Finally, the scope of the study was limited to three main constructs: digital entrepreneurship capabilities, circular business model innovation, and SME performance. Other influential variables, such as organizational culture, leadership style, innovation climate, regulatory pressure, industry turbulence, and access to green financing, were not included. These omitted variables may affect the relationships tested and present avenues for model expansion.

6.2 Directions for Future Research

According to the limitations identified, several pathways for future research are recommended to deepen and expand the understanding of digital circular dynamics within SMEs. Future studies could employ a longitudinal research design to track how digital entrepreneurship capabilities and circular business practices evolve over time. Such designs can help establish causal relationships and reveal how external shocks, such as economic crises, technological disruptions, or policy changes, shape SME transformation. Researchers are further encouraged to adopt mixed methods approaches, integrating quantitative surveys with qualitative interviews, case studies, or ethnographic insights. This would provide a richer, more nuanced understanding of how SMEs operationalize digital and circular practices, the barriers they encounter, and the strategic decisions underpinning such transitions.

Additionally, researchers may consider expanding the conceptual model by incorporating additional contextual or organizational variables. Factors such as

sustainability leadership, environmental orientation, digital culture, innovation climate, institutional support, or access to green financing could significantly influence the adoption of digital and circular strategies. Comparative studies across countries or regions, particularly between developed and developing economies, could also provide valuable insights into how cultural, regulatory, technological, and infrastructural differences affect digital entrepreneurship and circular innovation. Such comparisons may reveal unique contextual drivers or constraints.

Future researchers could conduct sector-specific investigations. The transition toward circularity may vary substantially between sectors such as manufacturing, retail, ICT, tourism, apparel, and agriculture. Understanding these differences would help policymakers and industry associations design more targeted interventions. Finally, researchers could explore objective performance metrics, such as revenue growth, carbon footprint reductions, material efficiency improvements, or productivity gains. Combining objective indicators with perceptual assessments would strengthen the robustness of empirical findings and provide a more comprehensive understanding of SME performance outcomes.

7. Conclusion

The purpose of this study was to examine how digital entrepreneurship capabilities influence circular business model innovation and SME performance within the Sri Lankan context. Using data from 253 SMEs and analyzed through PLS-SEM, the findings provide empirical support for all four hypotheses and offer important theoretical, practical, and contextual insights. Overall, the results align strongly with global findings while offering novel empirical evidence from a South Asian perspective. Literature has consistently shown that digital technologies enable sustainability transitions, circular practices, and improved performance outcomes (Geissdoerfer et al., 2017; Chiaroni et al., 2021). However, empirical studies linking these constructs in developing-country SME contexts have been limited.

The results demonstrate that digital entrepreneurship capabilities significantly enhance circular business model innovation, confirming the importance of digital readiness for enabling SMEs to adopt more sustainable, resource-efficient, and regenerative business models (Liu et al., 2024; Chiaroni et al., 2021). Circular business model innovation, in

turn, exhibits a strong positive impact on SME performance, highlighting its contribution to operational efficiency, cost savings, and competitive advantage (Bocken et al., 2014; Famiyeh et al., 2018). Furthermore, the direct effect of digital entrepreneurship capabilities on SME performance underscores digital transformation as a strategic imperative, particularly for SMEs in developing economies facing market volatility and resource constraints (Mahfuz, 2020; Lee & Lim, 2024).

A key theoretical contribution of this study is the identification of circular business model innovation as a partial mediator in the relationship between digital entrepreneurship capabilities and SME performance. This finding suggests that digital tools and competencies yield superior outcomes when strategically embedded within sustainability-oriented and circular innovation processes (Del Giudice et al., 2021; Ranta et al., 2024). It advances current knowledge by demonstrating how digital transformation and circular economy principles jointly strengthen sustainable competitiveness in emerging markets such as Sri Lanka. Overall, the study concludes that SMEs that develop strong digital entrepreneurship capabilities and integrate circular thinking into their strategies are better positioned to thrive in the evolving digital and green economy. The findings emphasize the importance of aligning digital initiatives with sustainability-driven business model innovation to achieve long-term performance benefits.

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The Impact of Sports Marketing Using Celebrity Endorsements on the Purchase Intention of Student Athletes of State Universities in the Western Province, Sri Lanka

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Abstract

Sports marketing has become a prominent feature of modern marketing communication, with celebrity endorsement emerging as a powerful tool for shaping consumer perceptions and behavior, particularly among youth consumers. Despite being a widely adopted strategy by the local marketers and brands, there is limited completed research to examine the influence of celebrity endorsements on the purchase intention of this specific group of consumers who are frequently exposed to sports-related promotions. Addressing this gap, this study investigates how four key celebrity endorsement attributes, such as attractiveness, trustworthiness, expertise, and product-celebrity congruence, influence the purchase intention of student athletes of state universities in the Western province of Sri Lanka while examining the moderating role of gender. Grounded in Ohanian's Source Credibility Theory and Kamin's Match-Up Hypothesis, this study employed a quantitative research design using a structured questionnaire administered to 337 athletes representing the universities of Colombo, Kelaniya, Sri Jayewardenepura, and Moratuwa through stratified random sampling. Data were analyzed using descriptive statistics, Pearson correlation analysis, multiple regression, and moderation analysis. The results revealed that trustworthiness, expertise, and product-celebrity congruence significantly and positively influence purchase intention, whereas attractiveness has no significant effect, indicating that these student athletes value credibility, authenticity, and performance relevance more than physical appeal when evaluating endorsers. Further, gender was found to moderate the effects of trustworthiness and expertise, suggesting the difference in perceptions of male and female students towards suggesting perceptual differences between male and female athletes in evaluating credibility-based cues, while gender did not moderate the influence of attractiveness or congruence. Overall, this study contributes to the limited

Sri Lankan sports marketing literature and offers practical guidance to design authentic, targeted, and gender-sensitive celebrity endorsement strategies.

Keywords: *Sports Marketing, Celebrity endorsement, Purchase intention, Trustworthiness, Expertise, Attractiveness, Product–celebrity congruence, Source Credibility Theory, Match-Up Hypothesis, University athletes*

1. Introduction

Sports marketing has become one of the most influential promotional tools used by brands to build strong connections with consumers. As organizations increasingly recognize both the economic and social value of sport, investment in sponsorships, athlete endorsements, and sports-related branding has grown significantly over the past decade (Shank & Lyberger, 2014). This trend is clearly visible in the Sri Lankan context, supported by the nation's strong passion for cricket, football, athletics, and many other sports. The growing commercialization of sports has encouraged local firms to adopt sports marketing as an important component of their promotional strategies (Bandaranayake et al., 2019).

Celebrity endorsement has emerged as one of the most widely used and effective promotional techniques. It relies on the public image, credibility, and reputation of well-known individuals to shape consumer perceptions and influence behaviour (Ohanian, 1991). In Sri Lanka, celebrity endorsement is particularly prominent in sports-related promotions, where brands frequently collaborate with athletes to enhance credibility and strengthen consumer trust. Such endorsements can create emotional and psychological connections between consumers, celebrities, and brands, which in turn influence purchasing decisions (Spry et al., 2011).

University athletes represent an important yet underexplored consumer segment. As active participants in sports, they are frequently exposed to brand promotions, sponsorships, competitions, and digital media content. Their purchasing decisions are shaped not only by their athletic aspirations but also by their awareness of commercial sports environments. Individuals closely tied to sports tend to evaluate endorsements based on performance relevance, the credibility of the endorser, and alignment with their own athletic identity. Despite this, limited empirical research has examined how celebrity endorsements influence the purchasing decisions of Sri Lankan university athletes, indicating a clear gap in the existing literature.

Numerous amount of global studies have examined the relationship between celebrity endorsement attributes and consumer purchase intention, primarily in Western or highly commercialized Asian markets (Dwivedi et al., 2016; Amos et al., 2017). Comparatively fewer studies have focused on South Asian contexts, where cultural values and social influences differ significantly (Sari et al., 2022; Khan & Khan, 2024). Local studies have mainly investigated the general public's response to celebrity endorsements rather than athlete-specific consumer groups (Dissanayake & Ismail, 2020; Priyankara et al., 2017), which highlights a clear research gap in understanding how sports-based endorsements influence purchase intention among Sri Lankan university athletes.

The study is grounded in the Source Credibility Theory (Ohanian, 1990) and the Match-Up Hypothesis (Kamins, 1990), both of which identify attractiveness, trustworthiness, expertise, and product–celebrity congruence as critical dimensions of effective celebrity endorsements. Previous studies demonstrate that these attributes directly influence consumer trust, perceived authenticity, message acceptance, and purchase intention (Cheng et al., 2024; Sari et al., 2022). State universities in the Western Province, including the University of Colombo, University of Sri Jayewardenepura, University of Kelaniya, and University of Moratuwa, host some of the largest and most active groups of student athletes in the country. With the rising use of athlete endorsements in Sri Lanka's branding landscape, understanding these dynamics is both timely and necessary (Khan & Khan, 2024; El-Shihy, 2024).

Therefore, this study examines how celebrity endorsement attributes of attractiveness, trustworthiness, expertise, and product–celebrity fit affect the purchase intention of student athletes in state universities in the Western Province of Sri Lanka while investigating whether gender moderates these relationships. The findings aim to address the existing research gap, strengthen the understanding of sports marketing in Sri Lanka, and provide practical insights for brands, marketers, and sports organizations to design more credible, authentic, and effective endorsement campaigns.

2. Literature Review

2.1 Sports Marketing and Celebrity Endorsements

Sports marketing has evolved globally with the increasing interaction among brands, athletes, and consumers. With the rising involvement of university athletes in the world

as well as in Sri Lanka, in the form of sports marketing campaigns, celebrity endorsements have emerged as one of the most powerful marketing strategies in sports marketing. The consumers tend to associate athletes with qualities such as discipline, authenticity, and credibility (Bandaranayake et al., 2019; Moreira et al., 2023). Celebrity endorsements are persuasive because they leverage the symbolic meaning and emotional appeal of well-known personalities (Amos, Holmes, and Strutton, 2017). Within athletic contexts, the impact is even stronger because sports celebrities embody performance-based credibility that resonates with young sports consumers (El-Shihy, 2024; Kong et al., 2024).

2.2 Purchase Intention

Purchase intention reflects an individual's conscious plan or willingness to buy a product and is widely recognized as a key determinant of actual purchasing behavior (Fishbein & Ajzen, 1975; Spears & Singh, 2004). It represents the final cognitive stage before a purchasing decision and is influenced by consumers' evaluations of product attributes, perceived value, and marketing communications. Modern consumers often evaluate endorsement messages based on both functional and symbolic value, making credibility-driven endorsements especially influential (Kumar & Kumar, 2021; Sari et al., 2022). In sports marketing, athlete endorsers can facilitate emotional identification, boost consumers' confidence in endorsed brands, and strengthen their purchase intentions (Moreira et al., 2023; Park et al., 2020). Prior research suggests that higher purchase intention increases the likelihood of brand choice, repeat purchasing, and positive word-of-mouth, making it a critical outcome variable in marketing research. For athlete consumers, purchase intention is therefore not only a reflection of brand appeal but also of perceived functional fit and credibility derived from the endorser.

2.3 Theoretical Foundations

The Source Credibility Theory (Ohanian, 1990) proposes that endorsement effectiveness depends on the perceived trustworthiness, expertise, and attractiveness of the celebrity, which collectively shape message believability. Trustworthiness reflects the perceived honesty of the endorser (Erdogan, 1999), expertise reflects perceived knowledge or skill (Spry et al., 2016), and attractiveness reflects physical and symbolic appeal (Amos et al., 2017). Research shows these dimensions significantly influence

purchase intention, particularly in sports contexts where authenticity and experience matter (Moreira et al., 2023; El-Shihy, 2024; Dissanayake & Ismail, 2020).

The Match-Up Hypothesis (Kamins, 1990) suggests that endorsement effectiveness increases when there is a strong fit between the celebrity and the product category. Congruent pairings enhance message credibility, emotional persuasion, and brand attitude (Kahle & Homer, 1985; Kamins, 1990). Conversely, mismatched endorsements weaken perceived relevance and reduce consumer trust (Liu et al., 2019; Suh & You, 2023). In Sri Lankan and South Asian markets, a credible and authentic fit with the product is critical for endorsement acceptance (Fernando & Samarasinghe, 2019).

2.4 Dimensions of Celebrity Endorsement

2.4.1 Attractiveness

Attractiveness refers to the physical appeal, charm, and likability of the celebrity. According to Ohanian (1990), attractiveness is a core dimension of source credibility, influencing affective evaluations and initial attention. However, empirical findings on its impact are mixed. While Amos et al. (2017) argue that attractiveness can enhance advertising effectiveness, several studies show that attractiveness does not necessarily translate into purchase intention, especially when consumers prioritize expertise and authenticity over appearance (Biswas et al., 2006; Liu et al., 2019). Among sports audiences, performance-based attributes tend to outweigh visual appeal. Based on the empirical findings related to attractiveness in sports-related contexts, this study proposes that celebrity attractiveness influences the purchase intention of student athletes of state universities in the Western province of Sri Lanka. Therefore :

H1: Celebrity attractiveness has a significant effect on the purchase intention of state university athletes.

2.4.2 Trustworthiness

Trustworthiness represents the honesty, integrity, and reliability of the endorser, and it is consistently identified as one of the strongest predictors of endorsement effectiveness (Amos et al., 2017; Erdogan & Baker, 2016). Trustworthy endorsers encourage consumer confidence, strengthen emotional bonds, and reduce skepticism toward advertisements (Dwivedi et al., 2016). In sports marketing, trustworthiness is especially

critical because athletes are expected to embody fairness, authenticity, and ethical conduct (Moreira et al., 2023; El-Shihy, 2024). Studies in Asian markets confirm that trustworthiness significantly influences purchase intention more than attractiveness (Sari et al., 2022; Khan & Khan, 2024). Local findings also highlight that Sri Lankan consumers prefer credible and ethical endorsers who display authenticity (Dissanayake & Ismail, 2020; Samarage & Ratnayake, 2021; Jayasinghe & Fernando, 2020). However, these studies have largely examined non-athlete consumer segments and have not explored endorsement effectiveness within university athlete populations or considered gender-based moderating effects in sports marketing contexts. Accordingly, this study examines the effect of celebrity trustworthiness on the purchase intention of student athletes of state universities in the Western province of Sri Lanka,

Therefore :

H2: Celebrity trustworthiness has a significant effect on the purchase intention of state university athletes.

2.4.3 Expertise

Expertise reflects the celebrity's perceived knowledge, competence, or experience related to the product. Expertise enhances message reliability and reduces perceived risk, making it one of the most influential factors in purchase intention (Spry et al., 2016; Kong et al., 2024). Sports consumers, particularly university athletes, are highly responsive to expertise because they evaluate endorsements through a performance-driven lens (Moreira et al., 2023; Cheng et al., 2024). International studies confirm that expertise significantly drives purchase intention when the product is technical or performance-oriented (Jun et al., 2023; Park et al., 2020). The literature consistently emphasizes expertise as a key determinant of purchase intention of performance-related endorsements.

Therefore :

H3 : Celebrity expertise has a significant effect on the purchase intention of state university athletes.

2.4.4 Product–Celebrity Congruence

Product–celebrity congruence refers to the perceived fit between the celebrity and the product. According to Kamins (1990), congruence increases endorsement credibility

because consumers perceive the pairing as natural and authentic. High congruence enhances attitude formation, brand trust, and purchase intention (Dwivedi et al., 2016; Moreira et al., 2023). Incongruence reduces message believability and weakens consumer response (Liu et al., 2019; Suh & You, 2023). In Sri Lanka, athletes place strong emphasis on product relevance and authenticity, making congruence one of the most decisive factors (Fernando & Samarasinghe, 2019; El-Shihy, 2024). Prior research demonstrates that perceived congruence enhances the persuasiveness and the credibility of the endorsed products

Therefore :

H4 : Celebrity-product congruence has a significant effect on the purchase intention of state university athletes.

2.5 Gender as a Moderating Variable

Gender influences how consumers interpret and respond to endorsement cues. Research shows that female consumers tend to rely more on trustworthiness and emotional authenticity, while male consumers respond more to expertise and competence (Osei-Frimpong et al., 2021; Jun et al., 2023). Khan and Khan (2024) further highlight distinct gender-based variations among young South Asian consumers. However, Sri Lankan studies have not sufficiently explored how gender differences shape athlete consumers' responses to endorsements, indicating a clear research gap. Prior empirical research consistently suggest how the endorsement attributes have an influence on the purchasing behavior of consumers, depending on the gender. Therefore, the following moderation hypotheses are proposed :

H5: Gender moderates the relationship between celebrity attractiveness and purchase intention.

H6: Gender moderates the relationship between celebrity trustworthiness and purchase intention.

H7: Gender moderates the relationship between celebrity expertise and purchase intention.

H8: Gender moderates the relationship between product–celebrity congruence and purchase intention.

The reviewed literature shows that celebrity endorsements play a significant role in shaping consumer behavior, particularly in sports-related markets where credibility, performance relevance, and authenticity are highly valued. Prior studies consistently emphasize that trustworthiness, expertise, and product–celebrity congruence are the most influential endorsement attributes, while the effect of attractiveness remains inconsistent and often weak. These findings are supported across Western, Asian, and South Asian contexts, indicating that credibility-based cues hold stronger persuasive power than visual appeal, especially for functional or performance-oriented products.

The literature also highlights the relevance of the Source Credibility Theory and the Match-Up Hypothesis as the primary theoretical foundations for understanding endorsement effectiveness. These theories explain how trustworthiness, expertise, attractiveness, and perceived congruence shape message acceptance, brand attitudes, and purchase intention.

While numerous global studies have examined endorsement attributes, there is limited research focusing specifically on athlete consumers, particularly university athletes in South Asian or Sri Lankan contexts. Existing Sri Lankan studies have explored general consumer responses but rarely addressed endorsement effectiveness among athletic groups who evaluate endorsements through a performance-driven lens. The literature also suggests that gender influences how consumers interpret endorsement cues, with females relying more on trustworthiness and males on expertise; however, this moderating effect remains underexplored in the Sri Lankan sports context.

Overall, the literature demonstrates a clear need for empirical investigation into how celebrity endorsement attributes influence the purchase intention of Sri Lankan university athletes and whether gender moderates these relationships. This gap justifies the development of the current study’s conceptual framework and supports the eight hypotheses tested.

2.6 Conceptual Framework

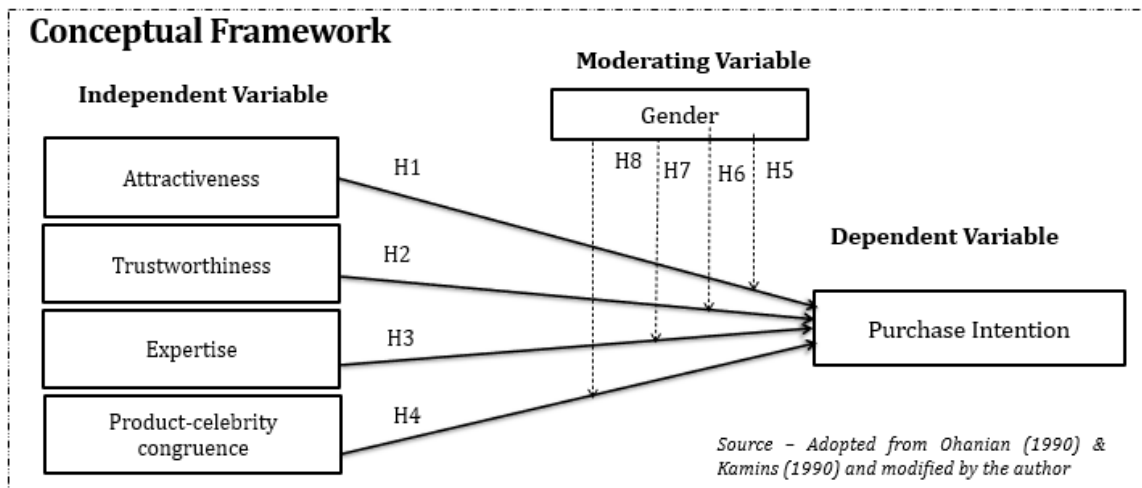


Figure 1: Conceptual Framework

Source: Adopted from Ohanian(1990) and Kamins (1990) and modified by the author

3. Methodology

This study employed a quantitative, cross-sectional research design to examine how celebrity endorsement attributes influence the purchase intention of student athletes in the state universities in the Western Province of Sri Lanka. A quantitative approach was chosen as it allows numerical measurement of perceptions and enables the testing of theoretically grounded hypotheses. In line with the goal of analyzing stable endorsement-related perceptions, the cross-sectional design was suitable for capturing athletes' attitudes at a particular point in time without the need for recurrent observations.

The population consisted of 2,267 registered student athletes from the University of Colombo, the University of Kelaniya, the University of Sri Jayewardenepura, and the University of Moratuwa. Stratified random sampling was adopted to ensure proportional representation, as stratification reduces sampling bias and enhances generalizability by ensuring that subgroups within the population are accurately represented. A total of 337 responses were collected, which exceeded the recommended sample size requirement for multiple regression and moderation analysis, providing adequate statistical power to test the proposed hypotheses.

Primary data were collected using a structured self-administered questionnaire, as it is efficient for collecting standardized responses from a large group and aligns well with

quantitative endorsement research. All constructs were measured using previously validated five-point Likert scale items ranging from “Strongly Disagree” to “Strongly Agree.” Items measuring celebrity attractiveness, trustworthiness, and expertise were adapted from Ohanian (1990), while product–celebrity congruence was measured using items adapted from Kamins (1990) and Till and Busler (2000). Purchase intention was measured using items adapted from Spears and Singh (2004). Gender was measured as a categorical variable. The use of established measurement scales ensured content validity and conceptual consistency with the theoretical foundations of the study. The demographic information of the respondents, such as gender, university, age, and sport category, was also obtained. Using established scales ensured conceptual alignment with the theoretical foundations discussed in the literature review.

A pilot study was conducted with 16 student athletes from the four selected universities. The pilot test aimed to assess clarity, comprehension, and the appropriateness of the items for the target population. Participants provided feedback on item wording and flow, resulting in minor modifications to improve readability. Reliability tests from the pilot test indicated acceptable internal consistency for all variables, confirming that the instrument was suitable for the main data collection.

Data collection was carried out with the support of physical education units, sports councils, and team coordinators of the respective universities, and questionnaires were distributed using the social media platform, WhatsApp allowing access to a broad range of athletes. Ethical guidelines were strictly followed, where the respondents were informed of the academic purpose of the research, participation was voluntary, and confidentiality was guaranteed and no identifying information was collected. These ethical practices helped minimize response bias and ensured honest and unbiased participation.

Following the data collection, the dataset was screened for completeness, and statistical assumptions were evaluated prior to analysis. Reliability of each construct was assessed using Cronbach’s Alpha, with all variables exceeding the standard threshold of 0.70, indicating strong internal consistency. Construct validity was examined using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett’s Test of Sphericity. Satisfactory KMO values and significant Bartlett’s statistics confirmed the adequacy of the data for factor-related analysis, while acceptable item loadings supported convergent validity.

Data were analyzed using SPSS, and descriptive statistics were computed to summarize the respondent characteristics and variable distributions. Pearson correlation analysis examined the associations between celebrity endorsement attributes and purchase intention. Multiple regression analysis was then conducted to determine the direct effects of the four independent variables on purchase intention, providing a basis for testing H1–H4. To evaluate the moderating role of gender, interaction terms were created and incorporated into hierarchical regression models, enabling the assessment of H5–H8. All regression assumptions, including multicollinearity, normality, linearity, and homoscedasticity, were checked and satisfied, ensuring the clarity of the analytical results.

Throughout the study, methodological choices including the use of stratified sampling, validated measurement instruments, pilot testing, and regression-based analytical techniques were theoretically appropriate and ensured that the study could be replicated in similar contexts in the future.

4. Results and Discussion

4.1 Descriptive Analysis

This study drew on responses from 337 student athletes representing four major state universities in the Western Province of Sri Lanka. The sample demonstrated a balanced distribution of the respondents in terms of gender, age group, and institutional representation. The highest proportion of the respondents was from University of Sri Jayewardenepura with 28.2%, and the lowest representation was from the University of Moratuwa with 22.8% followed by 25.2% and 23.7% of the respondents from University of Kelaniya and University of Colombo respectively. A balanced distribution of the gender could be observed with 51.6% of males and 48.4% of female respondents distributed between the majority age group of 23–25 years, followed by 20–22 years (40.4%), while 5.9% were above 25 years. In terms of sporting participation, 50.1% of respondents were involved in team sports, 34.4% in individual sports, and 15.4% participated in both categories.

Descriptive statistical analysis indicates that the dependent variable of the study, purchase intention, recorded a mean value of 3.69 on a five-point Likert scale, demonstrating a moderate alignment among student athletes towards the purchase of celebrity-endorsed products. All independent variables of the study, celebrity

endorsement attributes observed the following mean points, attractiveness (M = 3.89), trustworthiness (M = 3.73) , expertise (M = 3.84), product–celebrity congruence (M = 3.84), suggesting a general favorable perception of celebrity endorsers among the respondents.

Overall, the descriptive analysis demonstrates that the sample comprises a diverse and well-balanced representation of the target population of the study, suggesting a positive general perception toward celebrity endorsement attributes. This analysis provides an appropriate empirical foundation for the subsequent inferential analyses examining the relationships between the celebrity endorsement attributes and purchase intention.

4.2 Validity and Reliability Analysis

The reliability of all five constructs was confirmed using Cronbach’s Alpha, with values ranging from 0.781 (Expertise) to 0.864 (Product–Celebrity Congruence). Since all constructs exceeded the minimum acceptable threshold of 0.70, the measurement scales were considered reliable for further analysis with satisfactory internal consistency. The construct validity was assessed using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett’s Test of Sphericity. The KMO value was 0.937, demonstrating excellent sampling adequacy, and Bartlett’s Test of Sphericity was statistically significant ($p < 0.001$), confirming the suitability of the data for factor analysis. All items recorded factor loadings above 0.50, supporting convergent and construct validity. Overall, these results demonstrate that the scales used in the study accurately measured the endorsement attributes and purchase intention.

Table 1: Validity Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.937
Bartlett's Test of Sphericity	Approx. Chi-Square	4625.229
	df	210
	Sig.	0.000

Source: Compiled by the author based on survey data

Table 2: Reliability Test

Dimensions	Cronbach’s Alpha	No. of Questions
Attractiveness (ATT)	0.881	4

Trustworthiness (TRU)	0.840	4
Expertise (EXP)	0.884	4
Product Congruence (PC)	0.847	4
Purchase Intention (PI)	0.879	5

Source: Compiled by the author based on survey data

4.3 Correlation Analysis

Correlation analysis was conducted to examine the direction, strength, and significance of the relationships between the purchase intention and the four selected endorsement attributes. Pearson’s correlation coefficient was used for all study variables, along with their significance levels based on a two-tailed test at the 0.01 level. The results indicate that all four celebrity endorsement attributes are positively and significantly correlated with Purchase Intention as presented in Table 9.

Product–Celebrity Congruence shows the strongest positive correlation with Purchase Intention ($r = 0.596$, $p < 0.01$). Trustworthiness ($r = 0.552$, $p < 0.01$) and Expertise ($r = 0.544$, $p < 0.01$) also demonstrate moderate positive correlations with Purchase Intention. Attractiveness records a weaker but statistically significant positive relationship with Purchase Intention ($r = 0.471$, $p < 0.01$).

These results match modern endorsement research, which shows that credibility-related cues such as competence, honesty, and product–celebrity fit are much stronger predictors of consumer responses than physical appearance (Liu et al., 2019). For athletes, attractiveness may help create a positive first impression, but it does not provide the meaningful information they need to make purchase decisions. Overall, the correlation findings clearly show that credibility-based attributes are more important than attractiveness in shaping purchase intention among student athletes of state universities in the Western province, Sri Lanka.

Table 3 : Correlation Analysis

Variables	ATT	TRU	EXP	PC	PI
ATT	1	0.630**	0.650**	0.644**	0.471**
TRU	0.630**	1	0.661**	0.612**	0.552**

EXP	0.650**	0.661**	1	0.661**	0.544**
PC	0.644**	0.612**	0.661**	1	0.596**
PI	0.471**	0.552**	0.544**	0.596**	1

Source: Compiled by the author based on survey data

4.4 Regression Assumption Testing

Prior to conducting the multiple regression analysis, the key statistical assumptions underlying regression were examined to ensure the validity and reliability results. The independence of residuals was assessed using the Durbin-Watson Test, which recorded a value of 1.744, falling within the acceptable range of 1.5 to 2.5. This indicates that the residuals are independent and the missing of autocorrelation between the variables.

Multicollinearity

Multicollinearity among the independent variables was evaluated using Tolerance and Variance Inflation Factor (VIF) values. As presented in Table 4.4, tolerance values exceeded the minimum threshold of 0.20, while all VIF values ranged between 2.116 and 2.354, well below the recommended cutoff value of 5.0. These results confirm the absence of multicollinearity, indicating that each celebrity endorsement attribute contributes uniquely to explaining variation in purchase intention and that the data are suitable for regression analysis.

Table 4: Multicollinearity Test

Variable	Tolerance	VIF
ATT	0.461	2.171
TRU	0.472	2.116
EXP	0.425	2.354
PC	0.463	2.159

Source: Compiled by the Author based on Data derived from SPSS version 24.0

ANOVA

An analysis of Variance (ANOVA) was conducted to assess the overall statistical significance of the regression model indicating whether the set of independent variables

jointly explains a significant proportion of variance in the dependent variable. As indicated by the results, the regression model was statistically significant ($F = 60.855$, $p < 0.001$), confirming that the independent variables collectively explains a significant portion of the variance in purchase intention among state university athletes.

This ANOVA result confirms that the combined effects of attractiveness, trustworthiness, expertise, and product-celebrity congruence significantly contribute to predicting the purchase intention. This finding provides statistical justification that this model is suitable for further analysis of individual regression coefficients for further interpretation.

Table 5: ANOVA Table

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	92.308	4	23.077	60.855	0.000
	Residual	125.897	332	0.379		
	Total	218.205	336			
a. Dependent Variable: PI						
b. Predictors: (Constant), ATT,TRU,EXP.PC						

Source: Compiled by the Author based on Data derived from SPSS version 24.0

4.5 Regression Analysis

Multiple regression analysis was conducted to examine the extent to which celebrity endorsement attributes influence the purchase intention among the study's sample, following the confirmation of the significance of the model. The regression model demonstrated a satisfactory level of explanatory power, accounting for 42.3% of the variance in purchase intention ($R^2 = 0.423$, Adjusted $R^2 = 0.416$), as presented in Table 4, indicating that the set of independent variables of the study collectively provides a meaningful explanation for the variations in the study's dependent variable.

Table 6: Model Summary

Model Summary^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	0.650 ^a	0.423	0.416	0.61580	1.744	
a. Predictors: (Constant), PC,TRU,ATT,EXP						
b. Dependent Variable: PI						

Source: Compiled by the Author based on Data derived from SPSS version 24.0

Among the four celebrity endorsement attributes, product-celebrity congruence emerges as the strongest and the most influential predictor of purchase intention ($\beta = 0.351$, $t = 5.733$, $p < 0.001$), suggesting that higher perceptions of congruence between the celebrity endorser and the endorsed product are associated with stronger purchase intention among the student athletes of the state universities in the Western province of Sri Lanka. Following product-celebrity congruence, celebrity trustworthiness exhibits a statistically significant positive influence ($\beta = 0.235$, $t = 3.878$, $p = 0.001$), displaying the perception of honesty and reliability of the celebrity endorsers towards the endorsed product. Expertise demonstrates a significant positive influence ($\beta = 0.162$, $t = 2.526$, $p = 0.012$), confirming the importance of the knowledge and competence of the endorser towards the endorsed product.

Table 7: Coefficients Table

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.882	0.190		4.634	0.001		

	ATT	-0.008	0.061	-0.008	-0.137	0.891	0.461	2.171
	TRU	0.255	0.066	0.235	3.878	0.001	0.472	2.116
	EXP	0.151	0.060	0.162	2.526	0.012	0.425	2.354
	PC	0.351	0.061	0.351	5.733	0.001	0.463	2.159
a. Dependent Variable: PI								

Source: Compiled by the author based on survey data

In contrast, attractiveness did not demonstrate a statistically significant relationship with purchase intention ($\beta = -0.008$, $p = 0.891$), indicating that celebrity appearance attributes do not meaningfully contribute to predicting purchase intention within the model, even though attractiveness received a high mean score in the descriptive analysis; it did not influence athletes' buying behavior.

Overall, the multiple regression results indicate that purchase intention among state university athletes of the target sample is significantly influenced by celebrity endorser credibility, experience, and the relevance to the endorsed product and the appearance of the celebrity does not have a significant impact on the purchase behaviour of these student athletes.

4.6 Moderation Analysis

Moderation analysis was conducted to examine whether gender moderates the relationship between celebrity endorsement attributes and purchase intention of the state university athletes in the Western province of Sri Lanka. Two models were tested where the Model 1 demonstrated the main effects of the endorsement attributes and gender whereas the Model 2 indicated the interaction terms between gender and each endorsement attribute to assess the moderation effect of gender.

Table 8 : Model Summary

Model Summary ^b						
Model	R	R Square	Adjusted R Square	R	Std. Error of the Estimate	Durbin-Watson

1	0.660 a	0.435	0.427	0.61009	
2	0.683	0.466	0.452	0.59677	1.796
a. Predictors: (Constant), PC,TRU,ATT,EXP,Gender					
b. Predictors: (Constant), PC,TRU,ATT,EXP,INT_TRU_Gender, INT_ATT_Gender, INT_EXP_Gender, INT_PC_Gender					
c. Dependent Variable: PI					

Source: Compiled by the Author based on Data derived from SPSS version 24.0

The results indicate that the inclusion of the interaction terms resulted in an increase in the explained variance of purchase intention, with R^2 increasing from 0.435 in model 1 to 0.466 in model 2, demonstrating an R^2 change of 0.031. This increase suggests that gender contributes additional explanatory power to the model with the addition of the interaction effects. The ANOVA results for both models indicates that the regression models were statistically significant ($p < 0.001$), confirming the overall adequacy of the moderation models.

Table 9: ANOVA Table

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.005	5	19.001	51.050	0.000 ^b
	Residual	123.200	331	0.372		
	Total	218.205	336			
2	Regression	101.750	9	11.306	31.745	0.000 ^c
	Residual	116.455	327	0.356		
	Total	218.205	336			
a. Dependent Variable: PI						
b. Predictors: (Constant), PC,TRU,ATT,EXP,Gender						

c. Predictors: (Constant), PC,TRU,ATT,EXP,INT_TRU_Gender, INT_ATT_Gender, INT_EXP_Gender, INT_PC_Gender

Source: Compiled by the Author based on Data derived from SPSS version 23.0

The coefficients of this moderation analysis reveal that the interaction term ‘trustworthiness x gender’ were statistically significant demonstrating that sincerity, honesty, and emotional authenticity have a stronger impact on female student athletes more than the male students when making purchase decisions while the interaction terms ‘expertise x gender’ were statistically significant suggesting that male student athletes reacts more positively to more competent, experienced and knowledgeable celebrity endorsers when making purchase decisions. In contrast, the interaction terms ‘attractiveness x gender’ and ‘product congruence x gender’ were not statistically significant ($p > 0.05$), suggesting that gender does not moderate the effects of these endorsement attributes on the purchase, as male and female athletes interpret these two attributes in the same way.

Table 11: Coefficient Table

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.782	0.048		78.804	0.001		
	C_ATT	0.003	0.06	0.003	0.042	0.966	0.458	2.181
	C_TRU	0.251	0.065	0.231	3.851	0.001	0.472	2.118
	C_EXP	0.137	0.059	0.146	2.302	0.022	0.422	2.372

	C_PC	0.364	0.061	0.364	5.98 1	0.00 1	0.46	2.172
	Gender	– 0.180	0.067	–0.112	– 2.69 2	0.00 7	0.984	1.016
2	(Constant)	3.782	0.047		80.2 35	0.00 1		
	C_ATT	0.124	0.09	0.126	1.38 2	0.16 8	0.197	5.089
	C_TRU	0.062	0.09	0.057	0.68 5	0.49 4	0.238	4.193
	C_EXP	0.322	0.08	0.345	4.02 2	0.00 1	0.221	4.516
	C_PC	0.325	0.086	0.325	3.79 3	0.00 1	0.222	4.503
	Gender_Code	– 0.183	0.066	–0.114	– 2.79 4	0.00 6	0.984	1.017
	INT_ATT_Gender	– 0.177	0.12	–0.135	– 1.47 8	0.14	0.197	5.089
	INT_TRU_Gender	0.351	0.128	0.225	2.73 9	0.00 6	0.241	4.147
	INT_EXP_Gender	– 0.375	0.117	–0.286	– 3.21 7	0.00 1	0.207	4.837
	INT_PC_Gender	0.069	0.119	0.051	0.57 8	0.56 3	0.214	4.681

a. Dependent Variable: PI

Source: Compiled by the author based on survey data

Overall, the moderation analysis demonstrates that though gender does not moderate all the relationships between the endorsement attributes and purchase intention, it plays a significant moderating role in shaping how trustworthiness and expertise of the celebrity endorser affect the purchase intention among the student athletes of the state universities in the Western province in Sri Lanka.

Discussion

This study examined the impact of sports marketing using celebrity endorsements on the purchase intention of student athletes of state universities in the Western province, Sri Lanka, with the consideration of gender as a moderating variable. The findings of this study provide strong empirical support for the theoretical foundations guiding this study. The clear influence of product–celebrity congruence reinforces the relevance of the Match-Up Hypothesis in sports-related endorsements. Athletes appear to depend heavily on the congruence between the celebrity endorser and the endorsed product, and this sense of alignment strengthens message clarity, reduces doubt, and enhances overall believability, consistent with the claims of Till and Busler (2000). This finding confirms that relevance and authenticity are of vital consideration when athletes assess endorsements linked to performance-oriented products.

The significant effects of trustworthiness and expertise further emphasize the continuing importance of credibility cues, as described by the Source Credibility Theory (Ohanian, 1990; Erdogan, 1999). When an endorser is perceived as honest and knowledgeable, athletes are more likely to view the message as reliable and worth considering. This aligns with recent work in the Sri Lankan branding context, where young consumers increasingly value genuine, transparent communication in advertising (Dissanayake & Ismail, 2020). For athletes, who operate in environments shaped by fairness, discipline, and accountability, these credibility-driven attributes carry even greater weight.

The lack of a significant effect from attractiveness marks an important shift from traditional advertising assumptions that positioned visual appeal as a major persuasive driver. Consistent with recent findings (Liu et al., 2019; Sari et al., 2022), attractiveness appears to be a secondary cue that loses influence in performance-driven product categories. For athletes who judge products based on experience, functional relevance,

and expected performance outcomes, physical beauty offers little informational value and therefore does not meaningfully shape purchase behavior.

The moderation analysis adds further depth by revealing how endorsement effects differ between male and female athletes. Gender significantly moderated the relationships involving trustworthiness and expertise. Female athletes were more strongly influenced by trustworthy endorsers, suggesting that sincerity, honesty, and emotional authenticity shape their purchase decisions more strongly, in line with research showing that women often rely more on relational cues in persuasive communication (Osei-Frimpong et al., 2021). In contrast, male athletes responded more strongly to expertise, which reflects the tendency for men to prioritize competence, authority, and performance-based information when evaluating products (Jun et al., 2023; Khan & Khan, 2024).

However, gender did not moderate the effects of attractiveness or congruence, indicating that both male and female athletes interpret these cues in similar ways. Attractiveness remained a non-persuasive attribute across genders, and congruence continued to exert a strong and stable effect regardless of gender differences. This stability reinforces the idea that product–celebrity fit is a universally influential factor among athletes, independent of demographic variations.

Overall, the findings convey a clear message: athletes respond most positively to endorsements that reflect authenticity, credibility and a meaningful fit between the endorser and the product. The combined influence of congruence, trustworthiness and expertise confirms long-standing theoretical claims while also reflecting modern shifts in consumer expectations toward transparency and functional relevance. The gender-based differences identified further highlight the importance of tailoring endorsement strategies, offering valuable insights for sports marketers aiming to optimize communication with diverse athletic audiences.

5. Conclusion

This study was conducted to identify the impact of sports marketing using celebrity endorsements on the purchase intention of student athletes from four selected state universities in the Western Province of Sri Lanka. The study investigated how four celebrity endorsement attributes namely attractiveness, trustworthiness, expertise and product–celebrity congruence influence the purchase intention of these athletes. It also examined whether gender alters the strength of these relationships. Overall, the findings

strongly indicate that credibility and perceived relevance play a far greater role than physical attractiveness when athletes assess celebrity endorsements.

The results revealed that trustworthiness, expertise and product–celebrity congruence each have a significant positive impact on purchase intention, whereas attractiveness does not. This suggests that athletes pay more attention to endorsers who appear genuine, knowledgeable and closely connected to the product they promote. Such qualities increase the perceived authenticity and reliability of the endorsement, particularly in the sporting contexts, where performance, credibility, and trust are highly valued more than physical appearance when athletes make purchase decisions.

Among all the examined endorsement attributes, product–celebrity congruence emerged as the attribute with the strongest influence on purchase intention. This indicates the importance of choosing endorsers whose image, experience, or expertise aligns closely with the endorsed product. Trustworthiness and expertise also play meaningful roles, supporting the principles of the Source Credibility Theory and emphasizing on the idea that credibility-based attributes drive stronger consumer behavior than visual appeal alone, especially when the product category is performance oriented.

The study also identified that gender moderated two of the endorsement relationships. Trustworthiness was found to have a stronger influence on female athletes, while expertise had a greater impact on male athletes. These differences suggest that endorsement messages are not interpreted uniformly across genders, and that more targeted endorsement strategies may be beneficial. However, the moderation analysis revealed that gender does not play any moderating role in the relationships between attractiveness and gender as well as product-celebrity congruence and gender, suggesting that these attributes are interpreted similarly by both male and female athletes.

Overall, the findings indicate that student athletes of state universities in the Western province of Sri Lanka respond most positively to endorsements that reflect credibility, product relevance and genuine expertise. For brands operating in sports-related markets, these results highlight the importance of prioritizing authentic and relevant endorsers rather than relying on attractiveness of the celebrity endorsers alone. In this way, the study contributes to a deeper understanding of athlete-focused marketing in

the Sri Lankan context and reflects a broader global shift toward authenticity-driven endorsement strategies. While the study is limited to state universities within the Western Province, it provides meaningful insights into athlete consumer behavior and offers a foundation for future research examining other regions, age groups or digital endorsement contexts. The study therefore contributes both theoretically and practically to the growing body of sports marketing literature in Sri Lanka.

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The Impact of TikTok Social Media on SMEs Growth in Colombo District

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Abstract

Nowadays, it has been observed that Small and Medium Enterprises (SMEs) in the modern-day digital era are increasingly adopting cost-effective social media platforms for marketing and growth. TikTok has emerged as a powerful, leading-edge platform due to its unique algorithm combined with short-form video content, thus offering potential opportunities to level the playing field for SMEs. However, specific empirical evidence regarding its impact is limited within the Sri Lankan context. The objective of this study is to empirically investigate the impact of some key TikTok marketing strategies, namely, Content Creation, Customer Engagement, and Hashtag & Trend Usage, on the growth of SMEs in the Colombo District. A quantitative, cross-sectional research design was adopted. Data were collected using a structured questionnaire that was distributed to a purposive sample of 300 SMEs in the Colombo District that actively use TikTok. Statistical Package for Social Science (SPSS) was used to analyze data; reliability tests, Pearson correlation, and multiple linear regression were employed to test the hypotheses. All three independent variables were significantly positively correlated with SMEs Growth. The regression model was significant, $F = 106.25$, $p < 0.001$, with $R^2 = 0.520$, explaining 52% of the variance in SMEs Growth. Hashtag & Trend Usage was the strongest predictor, $\beta = 0.372$, $p < 0.001$, followed by Content Creation, $\beta = 0.142$, $p = 0.004$. The third independent variable, Customer Engagement, while showing a significant correlation, $r = 0.413$, $p < 0.01$, did not provide a statistically significant contribution at the regression model level, $\beta = 0.088$, $p = 0.129$. The study deduces that TikTok is a powerful marketing tool for SMEs in Colombo. Strategic use of trends and hashtags is vital in ensuring visibility and, consequently, growth; consistent content creation forms the very foundation of brand building. Customer engagement, though, is considered important in building community, and

may play a more reinforcing role, one step removed from direct. Actionable recommendations for leveraging TikTok toward business development are provided to SME owners and policymakers.

1. Introduction

The digital revolution has transformed the way marketing is carried out, and it has forced companies to build a strong presence online if they want to compete in the marketplace. Social networking sites have provided Small and Medium Enterprises (SMEs) with an unprecedented opportunity to reach very large markets at a relatively low cost, for SMEs, which are usually operating on constrained budgets. SMEs are the backbone of the Sri Lankan economy, and their ability to adapt to digital marketing trends will determine their sustainable growth and resilience. (Chaffey and Ellis-Chadwick, 2019; Kaplan, A.M. and Haenlein, M. (2010); Durkin, McGowan and McKeown, 2013; Ministry of Industry and Commerce of Sri Lanka, 2016; Rahman and Hussain, 2023)

Among the different social media platforms, TikTok saw a meteoric rise globally. A unique format of short-form, algorithm-driven video content facilitates the potential for rapid dissemination virally, even by nascent businesses with minimal followers (Li, Li & Zhang, 2022). The platform offers a dynamic medium for businesses to humanize their brands and connect with younger, highly engaged demographics through authenticity, creativity, and participation in trends in the form of hashtags and challenges (Zhao, Chen & Wang, 2021).

In the Colombo District, the commercial hub of Sri Lanka, many SMEs have started to embrace TikTok as a mode of marketing. They use the platform to display products, share behind-the-scenes stories, and interact with customers. Though this kind of adoption is happening at a rapid rate, empirical studies on the real impact of these activities on the major business growth indicators are highly inadequate. Most of the literature available focuses on either the Western markets or large corporations, leaving an evident research void with regard to TikTok's effectiveness for SMEs in developing economies like Sri Lanka itself (Fernando & Perera, 2022). As such, most local SMEs make use of the App without a strategic framework or even data on its return on investment.

This study, therefore, seeks to bridge this gap by providing empirical evidence on the impact of TikTok marketing on SME growth in the Colombo District. The research specifically focuses on three core TikTok marketing variables and their relationship with SME growth, leading to the following problem statement: Despite the rapid adoption of TikTok by SMEs in Sri Lanka for digital marketing, there remains a lack of empirical evidence on its actual contribution to SME growth in the Colombo District.

The primary objective of this research is to evaluate the influence of TikTok social media on SME growth. The following are the specific objectives:

1. To assess how TikTok content creation impacts brand visibility among SMEs.
2. To assess the relationship between audience engagement on TikTok and customer base growth of SMEs.
3. To analyze the impact of hashtag and trend usage on the sales performance of SMEs.

2. Literature Review

2.1 Theoretical Underpinnings

This paper is anchored in three theoretical frameworks that guide the study. The Technology Acceptance Model (TAM)-articulated by Davis in 1989-explains the extent to which SME owners would adopt TikTok, based on its usefulness and ease of use. If SME owners perceive that TikTok is useful in reaching out to their target audience, and it is easy to use, they are likely to adopt this innovation into their marketing strategy (Venkatesh, V., & Bala, H., (2008).

The Social Media Engagement Theory-Brodie, Brodie, R. J., Hollebeek, L. D., Jurić, B. & Ilić, A. (2011) provides a useful lens for understanding the interactions of SMEs and their customers on the platform. Engagement is a multi-dimensional construct that can take the form of likes, comments, and shares that may cultivate brand loyalty and community, leading to business results.

Content Marketing Theory explains how creating valuable, relevant, and consistent content helps businesses attract and retain customers. According to Pulizzi (2012), organizations can strengthen brand awareness and build long-term customer relationships by delivering meaningful and engaging content rather than traditional promotional messages. In the context of TikTok marketing, SMEs use creative and informative video content to promote their products and services. High-quality content

helps SMEs capture audience attention, improve customer engagement, and increase brand visibility, which ultimately contributes to business growth.

Social Network Theory and Viral Marketing Theory explain how information spreads through social connections and digital networks. Kaplan and Haenlein (2011) highlight that social media platforms allow content to spread rapidly among users through sharing, interaction, and online communication. In TikTok marketing, hashtags and trending topics help SMEs increase content visibility and reach wider audiences beyond their existing customer base. The use of hashtags and trends also improves discoverability and creates viral marketing opportunities, which support customer acquisition and SME business expansion.

Finally, the SME Growth Framework (Nichter, S., & Goldmark, L., 2009) conceptualizes growth as a function of both internal and external factors. This study positions TikTok marketing as an internal growth strategy that can enhance market access, customer relationships, and sales performance, which are critical dimensions of SME development.

2.2 Empirical Evidence and Research Gap

International empirical research already confirms the effectiveness of social media for SMEs. Research in Southeast Asia found evidence that SMEs on TikTok, with their algorithm based on interest, gain significant brand awareness and engagement among customers at a very low cost (Lee, Kim & Park, 2022). Likewise, in China, short-form authentic video content alone boosts revenue due to trust and loyalty (Zhao, Chen & Wang, 2021).

In the Sri Lankan context, the Information and Communication Technology Agency of Sri Lanka (ICTA). (2023) reported a general trend of digital transformation among SMEs, many of whom acknowledged increased web visibility. Fernando & Perera (2022), using a case study of local artisans, demonstrated that TikTok helped attract younger customers and drive sales during peak seasons. However, these studies fall under wide-ranging digital overviews or small-scale qualitative case studies.

A large research gap still exists. There is a lack of large-scale, quantitative studies in Sri Lanka that statistically measure the relationship between specific TikTok marketing activities (content creation, engagement, hashtag use) and measurable SME growth metrics such as sales, customer base, and brand visibility. Moreover, how TikTok's

trend-driven algorithm differs from more established platforms like Facebook in driving SME business performance remains an underexplored area in the local context. This study fills this gap by utilizing a quantitative methodology to test hypotheses derived from established theoretical models that offer generalizable insights for the Sri Lankan SME sector.

3. Methodology

Research Design

The design of the study is quantitative, descriptive, and cross-sectional. This design was considered most appropriate because it involves a systematic collection of numerical data to describe variables, relating them when necessary, without manipulation, as Creswell, J. W. (2014) mentions.

Population and Sampling

SMEs operating in the Colombo District, for which TikTok is being used actively as a marketing tool, formed the target population. Based on the sample size table developed by Krejcie, R. V. & Morgan, D. W. (1970), the sample size required for a population of 14,670 registered SMEs is 375. Ministry of Industry and Commerce of Sri Lanka 2016). Allowing for possible non-response to ensure robustness, this was rounded up to 380, from which 300 usable responses were obtained, a good response rate. A purposive sampling method was employed whereby only SMEs involved in active TikTok marketing were selected.

Data Collection and Instrument

The collection of primary data was done through a structured questionnaire, which was distributed online using Google Forms, supported by physical copies. The questionnaire is divided into four parts:

Section A: Demographic details of the SME, such as years in operation, number of employees, and the duration for which TikTok is being used.

Sections B-D: Measured the independent variables—Content Creation (4 items), Customer Engagement (3 items), and Hashtag & Trend Usage (4 items)—by using a five-point Likert scale anchored at 1=Strongly Disagree to 5=Strongly Agree.

Section E: Measured the dependent variable, SME Growth (4 items), also on a five-point Likert scale, focusing on perceived changes in brand awareness, customer base, and sales revenue.

The items measuring the constructs were adapted from established scales in prior studies, for example, Kumar (2022), Brodie, R. J., Hollebeek, L. D., Jurić, B. & Ilić, A. (2011), and Ranaweera (2023).

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences, SPSS version 26. The analysis proceeded as follows:

Reliability and Validity: Cronbach's Alpha was computed to check the reliability of the internal consistency of the constructs. Construct validity was verified using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity.

Descriptive Analysis: Frequencies, means, and standard deviations were calculated in order to summarize the demographic profile and key variables.

Inferential Analysis: Bivariate relationships of the variables were analyzed by Pearson correlation analysis. Multiple linear regression analyses were used to test hypotheses in this study and also assess the predictive power of independent variables on SME Growth.

4. Results and Discussion

4.1 Reliability, Validity, and Demographic Profile

Reliability analysis using Cronbach's Alpha for all the constructs showed an acceptable level of internal consistency, as follows: for Content Creation, 0.712; for Customer Engagement, 0.701; for Hashtag & Trend Usage, 0.667; and for SME Growth, 0.689. All the constructs also had a KMO value above 0.68, while Bartlett's Test showed a significant result, $p < 0.001$, which means the data was fit for factor analysis.

The demographic profile showed that 58% of respondent SMEs were male-owned, 40% had been in operation for 1-3 years, and relatively new to TikTok, with 50.3% having used the platform for business for only 3-6 months. This suggests that newer, more agile businesses are leading the adoption of innovative marketing tools in Colombo.

4.2 Descriptive Statistics of Key Variables

The mean scores of all key variables were above the neutral point of 3.0, indicating an overall positive perception among SMEs. Customer Engagement (Mean=3.82, SD=0.59) and Hashtag & Trend Usage ranked equally in first position, followed by Content Creation (Mean=3.64, SD=0.63), while SME Growth ranked in the last position, recording a mean of 3.53 (SD = 0.56).

4.3 Hypothesis Testing

Correlation Analysis: The Pearson correlation matrix revealed that all independent variables were significantly positively related to SME Growth at the 0.01 level. Accordingly, the correlations are: Content Creation ($r = 0.443$), Customer Engagement ($r = 0.413$), and Hashtag & Trend Usage ($r = 0.505$).

Regression Analysis: A multiple regression was conducted to predict SME Growth from the three independent variables. The model was significant, $F(3, 296) = 106.25$, $p < .001$ and explained 52.0% of the variance in SME Growth ($R^2 = 0.520$; Adjusted $R^2 = 0.515$). Independence of residuals was confirmed with a Durbin-Watson statistic of 2.143, and VIF values were all below 2, which indicated no multi-collinearity.

Table 1: Multiple Regression Results for Predictors of SME Growth

Variable	Unstandardized B	Standard Error	Standardized Beta	T-value	P-value
Constant	0.596	0.182		3.268	0.001
Content Creation	0.126	0.044	0.142	2.883	0.004
Customer Engagement	0.082	0.054	0.088	1.527	0.129
Hashtag & Trend Usage	0.051	0.051	0.372	7.281	<0.001

Dependent Variable: SME growth

Source: SPSS Output based on Survey Data, 2025

According to the analysis:

H1: Content Creation has a significant positive impact on SME Growth. Supported.

H2: Customer Engagement significantly positively influences SME Growth. Not supported by the regression model.

H3: Hashtag & Trend Usage has a significant positive effect on SME Growth. Supported.

5. Discussion of Findings

The strong support for H1 aligns with TAM theoretical expectations and earlier studies, such as Kumar (2022) and Zhao et al. (2021). SMEs that invest regularly in creative, high-quality content find the platform "useful" to drive growth because such content is essentially required to build up brand identity and attract target audience attention.

The most compelling result is support for H3. Hashtag & Trend Usage ($\beta = 0.372$) emerged as the strongest predictor of SME growth. This underlines the core mechanic of the TikTok algorithm, which places a high priority on discoverability. Through effective usage of trending hashtags and going viral with hashtag challenges, SMEs are in a position to attain exponential "viral" reach, placing content on the "For You Page" of millions of users. This offers an affordable means through which to bypass obstacles characteristic of traditional marketing, while directly driving brand awareness and customer acquisition processes (Li & Smith, 2020; Ranaweera, 2023).

The fact that H2 is not significant in the regression model, while it showed a significant bivariate correlation, suggests a nuanced insight. This would mean that even though the customers engage well, like, comment, and respond, their contribution becomes diminished when the effects of content and trends are considered. This means that engagement may be more of a consequence of, or reinforcer of, growth than a direct driver of it. High-quality content and trend participation provide the initial bursts of visibility and traffic. Engagement can then serve to convert traffic into a loyal community through relationship-building behaviors that support long-term stability and repeat business (Brodie et al., 2011). Its role is likely more indirect, acting as a mediator, and should be explored with more complex models in future research.

6. Conclusion

This study provides robust empirical evidence that TikTok is indeed a significant and effective digital marketing tool in driving the growth of SMEs in the Colombo District of Sri Lanka. The algorithm-driven environment of the platform democratizes

marketing, allowing creativity and cultural relevance to compensate for limited financial resources.

This study comprehensively showed that Hashtag and Trend Usage is the most important tactic to achieve fast visibility and scale customer reach. More importantly, persistent and creative Content Creation forms the basic necessary ingredient for building a relevant brand presence. While the impact of Customer Engagement itself may not be causal for growth, it remains very significant as part of community nurturing in order to foster loyalty that sustains business success over time.

In other words, for SMEs in Sri Lanka, TikTok is not just a social platform but an effective driver of business growth. Its effective utilization, with guidance from the findings of this research, can bring actual improvement in brand awareness, customer base expansion, and sales performance.

Recommendations

Prioritize learning and integrating currently trending hashtags and challenges into your content strategy to maximize algorithmic visibility.

Invest regularly in the creation of original, high-quality video content that tells your brand story and shows the value of your products.

Look at customer engagement not only as a metric but as a strategic tool for gathering feedback and building a loyal community. To Policymakers and Supporting Institutions: Include platform-specific digital marketing training, particularly on the mechanics of TikTok, in SME development programs executed by institutions such as the ICTA and business development agencies.

Limitations and Future Research

The research had a limitation in the generalizability of the findings for rural SMEs because it was restricted to the Colombo District only. Its cross-sectional design captures perceptions at one point in time. Further studies should expand geographically, use longitudinal designs in order to establish causality, and adopt deep qualitative investigations of nuanced contributions of customer engagement. Moreover, exploring sector-specific TikTok strategies would generate more focused insights.

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Impact of E-commerce Ethics on Purchase Intention among University Students in Sri Lanka

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Abstract

This research was conducted to assess the impact of security, privacy, non-deception, and reliability on university students' purchase intention in e-commerce in Sri Lanka. The major problem addressed in this study is that, despite the rapid growth of online shopping platforms, consumers still have concerns regarding their buying experience, trust, loyalty, data security, and the overall credibility of these platforms. It has been observed that unethical practices in the e-commerce sector can negatively influence consumer purchase decisions. The main objective of this study is to examine how these ethical factors influence purchase intention and to identify the strongest predictor among them. This research focused on university students of the Faculty of Management Studies and Commerce at the University of Sri Jayewardenepura. Data were collected through a structured questionnaire using Google Form using a quantitative research approach and analysed using SPSS version 27, including correlation and multiple regression analysis. The findings revealed that all four variables have a significant positive impact on purchase intention. Overall, Non-deception emerged as the strongest predictor, followed by Security, Reliability, and Privacy. These results highlight the importance of ethical practices in fostering consumer trust and increasing willingness to engage in online purchasing.

Keywords: *Security, Privacy, Non-Deception, Reliability, Ethical Factors, Consumer Trust, Purchase Intention, University Students*

1. Introduction

E-commerce provides a platform for consumers to buy products or services from a seller over the internet. In recent years, internet-based services such as e-commerce have experienced significant growth and widespread adoption worldwide (Lin et al., 2011). Although notable improvements have been made in security and privacy measures during online transactions, incidents of internet fraud continue to rise in today's dynamic digital environment. Literature reviews emphasize how these variables are important in influencing consumer satisfaction and purchase intention through trust and loyalty. In Sri Lanka, online shopping is expanding rapidly, with local platforms such as Kapruka and Daraz operating alongside international platforms like Temu and Shein. Higher digital literacy, widespread mobile network usage, and increased smartphone penetration have enhanced online shopping convenience, particularly among young adults. This digital expansion has strengthened the retail sector and created additional opportunities (Dharmesti et al., 2021). In this context, understanding the factors that drive purchase intention in Sri Lanka is crucial for online retailers and policymakers.

The purpose of this study is to identify the key factors affecting customer purchase intention in online shopping in Sri Lanka, with a particular focus on e-commerce ethics. The study aims to examine how ethical dimensions, such as non-deception, security, privacy, and reliability, influence consumers' trust and their willingness to purchase online. Previous research has shown that ethical conduct in e-commerce is a central driver of consumer behaviour, with factors like honesty, secure transactions, and responsible handling of personal data significantly affecting purchase intentions (Agag, 2017; Roman, 2007). While much research has been conducted in developed markets, there is a gap in empirical studies within the Sri Lankan context, particularly among students in the Faculty of Management Studies and Commerce (FMSC), University of Sri Jayewardenepura, who represent a digitally native and increasingly risk-aware demographic. The specific objectives are to examine the impact of product quality, product price, convenience, delivery service, payment methods, after-sales service, and data security on customer purchase intention.

In e-commerce, various factors influence purchase intention, including security, privacy, perceived usefulness, and ease of use. Studies indicate that consumers' perceptions of privacy and security directly influence their trust in online retailers, which, in turn, affects their purchasing decisions. Aggarwal and Rahul (2018) also confirmed that perceived security positively affects consumer purchase intentions. Website features such as privacy, security, and design have also been found to enhance consumers' purchase intentions (Liao et al., 2017).

E-commerce ethics refer to the set of principles that guide and influence consumer behaviour and decision-making when purchasing through online platforms. Key ethical factors often measured through variables such as perceived security, perceived privacy, perceived reliability, and perceived non-deception play a significant role in shaping consumers' trust and purchase intentions (Roman, 2007). The rapidly expanding e-commerce industry has transformed global purchasing habits, with consumers placing greater emphasis on security, privacy, reliability, and non-deception. In Sri Lanka, this trend is particularly evident among young adults. Although notable improvements have been made in security and privacy measures during online transactions, incidents of internet fraud continue to rise in today's dynamic digital environment.

Understanding the impact of e-commerce ethics on consumer purchase intention is crucial, as e-commerce ethics refers to the moral principles and standards guiding online business practices, such as transparency, fairness, honesty, and protection of customer data. These ethical practices build trust and confidence, which directly influence consumers' willingness to shop online. Understanding the impact of e-commerce ethics on consumer purchase intention is essential for recognizing the current market landscape. However, comprehensive studies on this topic remain limited, especially within the Sri Lankan context. Insight from such research is valuable not only for SMEs but also for other online business platforms seeking to enhance customer trust. As the concept is still not fully recognized or adopted by many online retailers in Sri Lanka, examining these ethical dimensions becomes both relevant and critical. Therefore, this study focuses on identifying e-commerce ethics on the purchase intentions of university students within the Faculty of Management Studies and Commerce at the University of Sri Jayewardenepura, Sri Lanka. This focus ensures

representation from undergraduates across all nine provinces of Sri Lanka, making the findings more generalizable to the youth population.

The findings of such a study would help e-commerce and online retailers understand how privacy, security, reliability, and non-deception contribute to strengthening consumer purchase intention. With this knowledge, businesses can enhance their services to build customer loyalty, improve competitiveness, and create a safer and more trustworthy e-commerce environment.

2. Literature Review

Understanding the study's theoretical background, which has supported the development of this research, is crucial. Consumer behaviour in the e-commerce environment is shaped by various psychological, social, and situational factors. Among these, data security and privacy perception are critical determinants of consumer purchase intention. Several theories from the literature, namely the Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB), Protection Motivation Theory (PMT), and the CEPOR model (Consumers' Perception Regarding the Ethics of Online Retailers), provide the theoretical foundation relevant to the scope of this research.

CEPOR (Consumers' Perception Regarding the Ethics of Online Retailers)

The model of Consumers' Perception Regarding the Ethics of Online Retailers (CPEOR), developed and validated by Roman (2007), serves as the central operational framework for this entire study. While theories like TAM, TPB, and PMT provide broad psychological and behavioural contexts, Román's model offers a specific, multi-dimensional, and empirically tested instrument for measuring ethical perceptions in the e-commerce environment.

Roman identifies the four core dimensions that consumers use to make decisions about the ethics of online retailers.

These are,

- Security – This emphasizes the consumer perception of the safety and protection of their financial and transaction data.

- Privacy – This mainly concerns handling personal information. This includes consumer perceptions about whether a company is transparent in how it collects, uses, and shares personal data.
- Reliability – This includes delivering the right product to the customers, in the described condition, within the promised time framework, and billing the correct amount for the correct amount.
- Non-deception - This dimension captures the consumer's belief in the honesty, truthfulness, and transparency of the online retailer.

In the present study, the CPEOR model is the foundational framework. The independent variables of this research, Perceived Security, Perceived Privacy Protection, Perceived Non-deception, and Perceived Fulfilment/Reliability, are directly adopted from Roman (2007) validated dimensions. By employing this model, this study ensures that its constructs are grounded in established theory and have high content validity.

The CPEOR scale assesses customer perceptions of e-retailers' ethics, with a focus on identifying potential links between selected dimensions by Agag (2017). This study investigates how buyers perceive the ethics of online service providers and how this affects their inclination to buy online. Specially focus on the perception of security and privacy in relation to consumer purchase intention. The need for a tool to assess the ethical behaviour of online providers stems from ongoing concerns about internet security, privacy, and the accuracy of information in transactions (Román & Cuestas, 2008). Consumer willingness to purchase online is influenced by ethical factors such as security and privacy (Román&Cuestas, 2008). Therefore, this issue is considered a major concern in e-commerce ethical behaviour within the Sri Lankan context.

This approach allows the research to test a proven framework within the unique and underexplored context of Sri Lankan university students, thereby assessing which of these universal ethical dimensions holds the most weight in shaping purchase intentions within this specific demographic.

E-commerce

E-commerce has revolutionised the way consumers shop, offering unprecedented convenience, access to a wide range of products, and the ability to shop anytime, anywhere. E-commerce is a significant part of life in this period, and customers prefer

to make more purchases on e-commerce platforms. The growth of e-commerce has been fuelled by the increasing penetration of smartphones, internet connectivity, and digital payment systems. Consumers, including university students, now expect a seamless, fast, and secure online shopping experience. The rapid adoption of mobile commerce and social commerce platforms has also influenced how consumers make purchasing decisions, with social media platforms like Instagram and Facebook becoming key channels for product discovery. Especially oriented towards commercial activities are the components of e-commerce (Kedah, 2023).

Purchase Intention

Purchase intention describes a consumer's likelihood of making a purchase based on their views, attitudes, and motivations. Intentions to buy online may be an essential factor in predicting customer buying behaviour in terms of website quality, information search, and merchandise analysis (Poddar et al., 2009; Hausman & Siekpe, 2009). In e-commerce, various factors influence this intention, including security, privacy, perceived usefulness, and ease of use. According to research, customers' opinions about privacy and security have a direct impact on how much they trust online retailers, which in turn influences their purchasing choices. Features on websites that increase consumers' purchasing intentions include privacy, security, and design (Li et al., 2017). Agag (2017) and Roman (2007) confirmed that honesty and transparency increase consumer trust and, in turn, purchase intention. However, most studies focus on developed countries, and there is limited research on the combined effect of these ethical dimensions in Sri Lanka, especially among university students. This study aims to fill that gap.

Security

Security is important for the success of e-commerce platforms. With the increase in online transactions, are people concerned about the protection of their financial data? Perceived security is a powerful tool for mitigating risk. This concern is about protecting financial and transactional data from unauthorized access. Security features such as encryption, secure payment gateways, and multi-factor authentication are integral to ensuring the safety of consumer data. Data security emerged as a crucial variable, encompassing personal data protection, financial status security, and transactional data protection (Nandasena & Wickramasinghe, 2024). In addition,

security is the link to overall trust in an e-commerce setting. When consumers feel secure, their trust in the platform increases, which in turn reduces their risk perception and encourages purchase behaviour in the e-commerce environment. Accordingly, based on the above literature, the following hypothesis is developed.

H1: There is a significant impact of security on consumer purchase intention of e-commerce users in Sri Lanka.

Privacy

Privacy is an emergent concern of the e-commerce setting. Especially in the collection of consumer personal data, the use of personal data, and the processing of personal data have increased today. The top three ethical concerns were related to criminal acts such as fraud, privacy, and honesty/truthfulness (Agag, 2017). Privacy concerns in cross-border e-commerce have become increasingly pertinent due to the vast amounts of personal data collected and processed during online transactions (Abu Sayed Sikder, 2013). Privacy is a major concern for online consumers, particularly in the context of data collection, usage, and sharing. Consumers' reluctance to share personal data often stems from fears of data misuse, identity theft, or unauthorized surveillance. The Privacy Calculus Theory highlights that consumers make decisions based on the perceived benefits of sharing their data against the potential risks. Accordingly, based on the above literature, the following hypothesis is developed.

H2: There is a significant impact of privacy on consumer purchase intention of e-commerce users in Sri Lanka.

Non-deception

Perceived non-deception refers to a consumer's belief in the honesty, truthfulness, and transparency of an online retailer's communication and marketing practices (Roman, 2007). In the impersonal environment of the internet, where consumers cannot physically review products or interact with salespeople, they are highly dependent on the information provided by the seller. Buyer perception of the seller not using deceptive practices is the non-deception (Limbu et al., 2011). Deceptive practices can include misleading product descriptions, exaggerated claims of performance, the use of fake online reviews to create false social proof, and manipulative pricing strategies. Accordingly, based on the above literature, the following hypothesis is developed.

H3: There is a significant impact of non-deception on consumer purchase intention of e-commerce users in Sri Lanka.

Reliability

Perceived Fulfilment/Reliability is a key operational dimension of e-commerce ethics that concerns a vendor's ability to keep the transactional promises it makes to the consumer (Román, 2007). This dimension moves beyond the pre-transaction phase to encompass the entire order fulfilment process. Key indicators of reliability include the accuracy of the order (receiving the correct item as described), timeliness of delivery (receiving the product within the promised timeframe), fairness in billing (being charged the correct amount with no hidden fees), and the availability of products as advertised. This dimension is a key factor of e-service quality, as identified in influential models like eTailQ (Wolfenbarger & Gilly, 2003) and E-S-QUAL (Parasuraman et al., 2005). While security and privacy build trust before the purchase, reliability solidifies trust and drives customer satisfaction after the purchase. Accordingly, based on the above literature, the following hypothesis is developed.

H4: There is a significant impact of reliability on consumer purchase intention of e-commerce users in Sri Lanka.

Accordingly, the research framework is built on the dimensions of e-commerce ethics (security, privacy, non-deception, reliability) as the independent variables, and purchase intention as the dependent variable, as illustrated in Fig. 1.

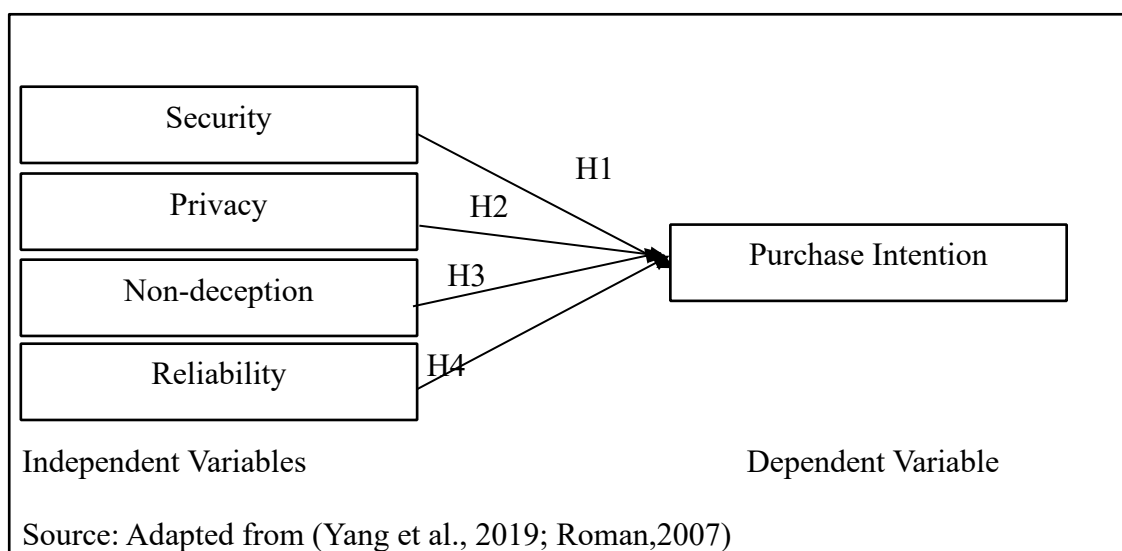


Figure 1 :Conceptual Framework

3. Methodology

The goal of the research process is to generate new knowledge or deepen understanding of a particular topic or issue. In this study, the research method is designed to explore the ethical dimensions of e-commerce, specifically security, privacy, reliability, and non-deception, and their influence on consumer purchase intention among university students.

This study population consists of 5,295 undergraduates of the Faculty of Management Studies and Commerce in the University of Sri Jayewardenepura, Sri Lanka (USJ, 2025). This population uses e-commerce platforms and engages with those platforms as well. This study indicates broader thinking about the ethics and consumer behaviours regarding purchasing intention, and how it has evolved. Especially consider how security and privacy affect in purchasing decisions. According to the Morgan table (Krejcie and Morgan, 1970), the minimum sample size is 361 respondents. Therefore, 365 students were selected as the sample for this research. A convenience sampling method was employed, falling under non-probability sampling techniques. This method was considered appropriate because it enabled the researcher to easily access a relevant sample group of students who were readily available and willing to participate. This study uses a convenience sampling method.

The study relies on both primary and secondary data sources.

- **Primary Data:** This study uses a Google Form for the self-administered response formation through the online platforms. This approach enables access to respondents and the collection of accurate and valuable responses. The survey is segmented into three sections: demographic information, independent variables (E-commerce Ethics Dimensions), and the dependent variable (Consumer Purchase Intention).
- **Secondary Data:** Gathered from existing literature, reports, and other credible sources to support and contextualize the findings.

The collected data were analysed quantitatively using the Statistical Package for the Social Sciences (SPSS) version 27. Four hypotheses were tested using a range of statistical techniques, including correlation analysis, multiple regression analysis, and descriptive statistics, under a deductive research approach.

The results of the Cronbach's Alpha coefficient for all the variables in the final test are above 0.7, indicating that the collected data have a relatively high degree of internal consistency to conduct the research study. According to Nunnally et al. (1994), a Cronbach's Alpha value of 0.70 or above indicates acceptable reliability, and 0.80 or above indicates good reliability. This study has good reliability with a value closer to 1.

Table 1: Reliability & Validity Analysis

Variables	Type of Scale	No of Questions	Cronbach's Alpha	KMO Values	Bartlett's Test Sig. Value
Security	5-point Likert Scale	4	0.860	0.822	0.000
Privacy	5-point Likert Scale	4	0.834	0.775	0.000
Non-Deception	5-point Likert Scale	4	0.838	0.799	0.000
Reliability	5-point Likert Scale	4	0.822	0.798	0.000
Purchase Intention	5-point Likert Scale	5	0.893	0.891	0.000

Source: Compiled by author based on survey data generated by SPSS version 27

The KMO value exceeded the recommended threshold of 0.60, indicating that the sample was adequate for factor analysis. The Bartlett's Test of Sphericity was statistically significant ($p < 0.05$), confirming that the variables were correlated enough to justify factor analysis. Therefore, construct validity is supported.

4. Results and Discussion

Descriptive Analysis

The descriptive analysis shows that all variables have mean values exceeding the neutral point of 3.5 (on the 5-point Likert scale). The variable Reliability (RQ_VAR)

has the highest mean value at 3.8685, followed closely by non-deception (3.8377). Since all independent variable means are close to 4.00, this initial finding indicates that the majority of student consumers tend to agree or strongly agree with the positive ethical practices in the e-commerce platforms they use. Furthermore, the dependent variable, Purchase Intention (PIQ_VAR), also demonstrates a high mean of 3.8170. This suggests that, in general, the sample has a high existing intent to purchase from e-commerce platforms. The Standard Deviation (SD) for all variables is notably low, ranging from 0.53146 to 0.59693. Low SD values suggest high consensus among the respondents; the data points are tightly clustered around the mean. This implies that student consumers in the sample share a consistent and relatively positive view regarding the ethical standards (Security, Privacy, Non-Deception, and Reliability) of e-commerce platforms, which is also reflected in their consistently high purchase intention.

Correlation Analysis

The degree and direction of the linear relationships between the independent and dependent variables were investigated using correlation analysis. Spearman's Rank Correlation Analysis was used to investigate the degree and direction of the monotonic linear relationships between the independent variables (Security, Privacy, Non-Deception, and Reliability) and the dependent variable (Purchase Intention). The Spearman's Rho coefficient is appropriate for assessing relationships in non-normally distributed data. This describes the strength of the relationship in terms of number -0.1 to +1.0, and it describes the relationship as positive or negative.

Table 2: Non-parametric Correlation Analysis

			SQ_ VAR	PQ_ VAR	NDQ_ VAR	RQ_ VAR	PIQ_ VAR
Spearman's rho	SQ_VA R	Correlation	1.00	.637**	.585**	.574*	.575**
		Coefficient	0			*	
		Sig. (2-tailed)	.	.000	.000	.000	.000
	N		365	365	365	365	365
	PQ_VA R	Correlation	.637*	1.000	.584**	.639*	.624**
		Coefficient	*			*	

	Sig. (2-tailed)	.000	.	.000	.000	.000
	N	365	365	365	365	365
NDQ_	Correlation	.585*	.584**	1.000	.675*	.591**
VAR	Coefficient	*			*	
	Sig. (2-tailed)	.000	.000	.	.000	.000
	N	365	365	365	365	365
RQ_	Correlation	.574*	.639**	.675**	1.00	.666**
VA	Coefficient	*			0	
R						
	Sig. (2-tailed)	.000	.000	.000	.	.000
	N	365	365	365	365	365
PIQ_	Correlation	.575*	.624**	.591**	.666*	1.000
V	Coefficient	*			*	
AR						
	Sig. (2-tailed)	.000	.000	.000	.000	.
	N	365	365	365	365	365

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

Source: Compiled by author based on survey data generated by SPSS version 27

Multiple Regression Analysis

The R Square value of 0.754 indicates that the independent variables collectively explain the variance in Consumer Purchase Intention. This is a very high value, suggesting that the four ethical dimensions included in the model are highly effective predictors of consumer buying intention. The Durbin-Watson statistic is 2.054, which is between 1 and 3, confirming that there is no autocorrelation issue in the data.

Table 3: Model Summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.869 ^a	.754	.752	.28133	2.054

a. Predictors: (Constant), RQ_VAR, SQ_VAR, NDQ_VAR, PQ_VAR

b. Dependent Variable: PIQ_VAR

Source: Compiled by author based on survey data generated by SPSS version 27

According to the findings in Table 3, the sig. Value is 0.000, and it is less than 0.05 ($p < 0.05$), hence it shows that the overall model is significant. Therefore, it can be concluded that the dependent variable, consumer purchase intention for e-commerce, depends on the independent variables: Security, Privacy, Non-Deception, and Reliability.

Table 4: Anova

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	87.523	4	21.881	276.465	.000 ^b
	Residual	28.492	360	.079		
	Total	116.015	364			

a. Dependent Variable: PIQ_VAR

b. Predictors: (Constant), RQ_VAR, SQ_VAR, NDQ_VAR, PQ_VAR

Source: Compiled by author based on survey data generated by SPSS version 27

In the coefficient table, all the variables have a significant positive impact. Also, all the Variance Inflation Factor (VIF) values are less than 5, which is good, and there is no multicollinearity issue.

Relative Predictive Strength (Beta): The Standardized Beta Coefficient (β) reveals the relative importance of each predictor:

- Non-Deception ($\beta=0.330$) has the strongest unique positive influence on Purchase Intention. This indicates that, after accounting for the effects of the other three ethical factors, consumers' perception of a platform's honesty and transparency is the single greatest driver of their intent to purchase.
- Security ($\beta=0.311$) is the second strongest unique predictor. This confirms that the perceived safety of transactions and data is critically important to consumers in their final purchasing decision.
- Reliability ($\beta=0.175$) and Privacy (0.144) also contribute significantly, though their unique roles are less dominant than Non-Deception and Security.

Table 5 : Coefficients

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.160	.114		1.406	.161		
SQ_VAR	.311	.047	.300	6.645	.000	.334	2.994
PQ_VAR	.144	.048	.153	2.987	.003	.262	3.824
NDQ_VA R	.330	.048	.335	6.885	.000	.288	3.478
RQ_VAR	.175	.051	.165	3.410	.000	.292	3.428

a. Dependent Variable: PIQ_VAR

Source: Compiled by author based on survey data generated by SPSS version 27

The analysis revealed that demographic variables such as age and year of study had no significant impact on consumer purchase intention in online shopping. However, product quality, convenience, payment methods, after-sales service, and data security were found to be highly significant determinants of online customer purchase intention in Sri Lanka.

The study presented several implications and suggested that online retailers should prioritize easy-to-use platforms, high-quality products, and convenient payment options. It further emphasizes the importance of data security and after-sales support in ensuring customer satisfaction. Improving online customer satisfaction requires addressing issues related to website accessibility, order fulfilment errors, inconsistent product availability, delays in order processing, and the need for simplified return policies. Although opportunities for future research were identified, further studies are necessary to generalize and expand the findings. In particular, qualitative investigations are recommended to explore emerging trends in Sri Lanka's dynamic online retail

ecosystem and to uncover underlying reasons behind the factors identified (Nandasena and Wickramasinghe, 2024). Research shows that the younger generation in the United States of America (USA) and Australia has a positive attitude towards online shopping, significantly influencing their purchase intentions (Dharmesti et al., 2021). This trend is also relevant in the Sri Lankan context, where young consumers use e-commerce platforms to balance their busy work and academic schedules.

Hypotheses Testing

H₁: Security has a significant positive impact on consumer purchase intention of e-commerce users in Sri Lanka

Security has a sig. Value of 0.000, which is below 0.05 ($p < 0.05$), implying that Security is a significant predictor of consumer purchase intention in e-commerce among university students in Sri Lanka.

H₂: Privacy has a significant positive impact on consumer purchase intention of e-commerce users in Sri Lanka

Privacy has a sig. Value of 0.003, which is below 0.05 ($p < 0.05$), implying that privacy is a significant predictor of consumer purchase intention in e-commerce among university students in Sri Lanka.

H₃: Non-deception has a significant positive impact on consumer purchase intention of e-commerce users in Sri Lanka

Non-deception has a sig. Value of 0.000, which is below 0.05 ($p < 0.05$), implying that non-deception is a significant predictor of consumer purchase intention in e-commerce among university students in Sri Lanka.

H₄: Reliability has a significant positive impact on consumer purchase intention of e-commerce users in Sri Lanka

Reliability has a sig. Value of 0.000, which is below 0.05 ($p < 0.05$), implying that reliability is a significant predictor of consumer purchase intention in e-commerce among university students in Sri Lanka.

All four hypotheses were accepted. Each of the ethical dimensions had a significant positive impact on purchase intention. This confirms the research model aligns with previous literature in various countries. It also proves that the ethical dimensions chosen for this study are relevant and effective in explaining consumer behaviour in the Sri Lankan e-commerce context. The acceptance of all hypotheses validates that ethics are not optional but essential for influencing online consumer decisions. This study contributes to theory by validating the Consumers' Perception Regarding the Ethics of Online Retailers (CEPOR) framework within the Sri Lankan youth context. The findings indicate that the ethical dimensions embedded in CEPOR are applicable and reliable in explaining purchase intention among university students in Sri Lanka. By confirming the model's relevance in an emerging market setting, this research strengthens the generalizability of CEPOR and highlights its utility for understanding ethical decision-making in digital consumer environments in developing economies.

Findings

This study examined the influence of four ethical dimensions: Security, Privacy, Non-Deception, and Reliability on consumer Purchase Intention in the context of e-commerce usage among university students in Sri Lanka. Based on the results of the multiple regression analysis and hypothesis testing, several key findings were identified.

First, the study found that Non-deception has the strongest positive impact on purchase intention. This indicates that the honesty and transparency of e-commerce platforms, particularly regarding product descriptions, pricing, delivery conditions, and return policies, are the most influential factors shaping consumer decision-making. When consumers feel confident that they are not being misled, their willingness to purchase increases significantly. This highlights the importance of clear communication and truthful representation in the online marketplace. Studies by Agag (2017) and Roman (2007) found that consumers' perceptions of ethical conduct, including truthful product descriptions, fair pricing, and transparent return policies, significantly enhance trust and purchase intention.

Secondly, Security was revealed to be the second most influential factor affecting purchase intention. Aggarwal & Rahul (2018) also confirmed that perceived security

positively affects purchase intentions in e-commerce. The findings suggest that consumers are highly sensitive to the protection of their financial information and personal data during online transactions. Platforms that demonstrate strong security features, such as secure payment systems, encryption, and verified seller credentials, are more likely to gain consumer trust and encourage purchasing behavior. This confirms that ensuring a safe digital transaction environment is essential in promoting e-commerce growth within Sri Lanka.

The study also found that Reliability has a significant positive effect on purchase intention. This indicates that consistent service delivery, accuracy of products delivered, timely response to customer inquiries, and overall dependability of the platform contribute to consumers' willingness to purchase online. Limbu, Wolf, & Lunsford (2011) found that consistent service, accurate deliveries, and timely customer responses positively affect trust and repeat purchase behaviour. Although its effect was weaker than that of non-deception and security, reliability remains a key operational factor influencing repeated usage and long-term customer loyalty.

Finally, Privacy was found to have a positive but relatively smaller influence on purchase intention. While consumers do value the confidentiality and responsible handling of their personal information, privacy concerns currently play a lesser role in shaping immediate purchase decisions compared to concerns about deception and security. Saeed (2023) notes that consumers value data protection, but it tends to affect trust indirectly rather than drive immediate purchase decisions. This suggests that privacy may be viewed more as a background expectation rather than a primary motivator; however, this could evolve as consumer awareness regarding data misuse continues to increase. Overall, the findings confirm that ethical considerations are central to consumer trust and purchase behaviour in e-commerce. Enhancing transparency, security, reliability, and data protection can significantly improve consumer confidence and encourage greater adoption of online purchasing platforms in Sri Lanka.

Recommendations for E-commerce Platforms

The findings of this study show that ethical practices have an important role in shaping consumer purchase intention, especially among university students who are frequent

and informed users of online platforms. Therefore, e-commerce businesses should place strong emphasis on providing accurate and transparent product information. This means using genuine product images, clear specifications, and realistic descriptions without misleading or deception. The study also highlights the negative impact of misleading advertisements and hidden charges, which undermine trust and discourage repeat purchases.

To minimise consumer risk and psychological discomfort during transactions, e-commerce platforms must strengthen their payment gateway systems and cybersecurity measures, ensuring that financial and personal data are safeguarded at all times. Furthermore, protecting customer privacy through data encryption, secure storage procedures, and transparent privacy policy disclosures is essential to building long-term trust. Reliability is another critical dimension that influences purchase intention, meaning that businesses should ensure the timely delivery of products, accurate order fulfillment, and up-to-date product availability information.

Efficient logistics coordination, real-time tracking features, and proactive communication regarding delivery status can greatly enhance the consumer experience. Additionally, offering clear and customer-friendly return and refund processes helps reduce perceived risk and improves customer satisfaction. Overall, by embedding ethical practices consistently, e-commerce platforms can significantly strengthen brand credibility, improve customer loyalty, and foster repeat purchasing behavior.

Managerial Implications

From a managerial standpoint, the results of the study emphasise that ethical practices are not just compliance obligations but key strategic advantages in competitive online markets. Managers should prioritise the development of an organizational culture grounded in honesty, transparency, and authenticity, which can be reinforced through employee training programs that highlight customer care and ethical decision-making. Continuous monitoring of ethical performance through customer feedback systems, complaint tracking, and satisfaction analysis can help firms evaluate whether their ethical standards are effectively being upheld.

Moreover, building customer trust requires commitment to consistent and reliable service delivery, which means managers must invest in supply chain coordination, platform usability, customer support responsiveness, and vendor quality control. Ethical branding, where companies actively communicate their ethical values in their marketing efforts, can further enhance corporate reputation and strengthen customer loyalty. When an organization is known for integrity and fairness, it develops long-term customer relationships that translate into sustained business performance.

With respect to the key e-commerce ethical dimensions, managers should strengthen security by implementing secure payment gateways, encryption technologies, and regular system audits to protect customer transactions. To address privacy, organisations should ensure transparent data collection practices, limit data usage to stated purposes, and clearly communicate privacy policies to customers. In terms of non-deception, firms must provide accurate product information, truthful pricing and promotions, and actively monitor and eliminate misleading or fake online reviews. Finally, reliability can be enhanced through consistent service delivery, accurate order fulfilment, timely deliveries, and maintaining stable and dependable e-commerce platforms.

Policy Implications

At the policy level, this study suggests the importance of strong regulatory frameworks to protect consumers in digital marketplaces. The government and relevant regulatory authorities should enforce strict consumer protection laws to address unethical online practices, such as false advertising, unauthorized data collection, and insecure payment mechanisms. Adopting international privacy protection standards such as the General Data Protection Regulation (GDPR) model can ensure responsible handling of personal data and increase consumer confidence in online transactions.

Monitoring mechanisms should be developed to identify and penalise deceptive advertising and fraudulent sellers, ensuring that unethical behaviour is discouraged at the national level. Furthermore, government support in strengthening secure digital payment infrastructure, such as promoting verified payment gateways and fraud detection systems, can enhance the overall safety of online commerce. Public awareness

campaigns and digital literacy programs can also help consumers make informed decisions in online environments. Ultimately, establishing and enforcing ethical standards in digital markets contributes to greater national trust, market stability, and sustainable growth in the e-commerce sector.

Suggestions for Future Researchers

While this study provides important insights into the impact of ethical dimensions on consumer purchase intention, there are several opportunities for future researchers to extend and deepen the understanding of ethical behavior in e-commerce contexts. First, future studies may incorporate additional psychological or behavioural variables, such as trust, customer satisfaction, website usability, perceived value, or service recovery experiences, which may act as mediating or moderating factors in shaping purchasing decisions. Including such variables would help reveal the internal cognitive processes that link ethical perceptions to consumer behavior.

Moreover, since the current research focused on university students, future research could expand the sample to working professionals, rural consumers, older adults, or individuals with varying levels of digital literacy, enabling comparisons across demographic groups and socioeconomic conditions. Further research could also compare ethical perceptions across different industry segments, such as fashion retail, electronics, online learning platforms, food delivery services, and healthcare-related e-commerce, as ethical expectations and sensitivity may vary depending on product type and risk level. A longitudinal research approach would likewise be valuable for examining how consumer attitudes evolve as digital markets, government policies, and technological infrastructures develop over time.

Additionally, employing qualitative research methods such as focus groups, in-depth interviews, or ethnographic observations can provide richer insights into emotional, cultural, and experiential dimensions of ethical judgment that quantitative methods may not fully capture. Researchers may also explore gender-based differences in evaluating ethical conduct, as behavioral responses to trust, privacy concerns, and reliability may differ between male and female consumers. Such future research directions would help provide a more comprehensive and multidimensional understanding of ethical e-

commerce behavior, contributing to stronger theoretical development and practical improvements in the field.

5. Conclusion

This study presented the discussion of the study findings in relation to existing literature, followed by the conclusion and practical recommendations. The results confirmed that all four ethical dimensions, Security, Privacy, Non-Deception, and Reliability, have a significant positive impact on consumer purchase intention in the context of e-commerce among university students in Sri Lanka. Among these, Non-deception emerged as the strongest predictor, emphasising that honesty, transparency, and truthful communication are the most influential determinants of online purchasing decisions. Security was the second strongest factor, highlighting the importance of secure payment systems and the protection of personal information. Meanwhile, Reliability and Privacy also demonstrated meaningful roles, even though their influence was relatively moderate compared to the other variables.

The findings indicate that consumers highly value integrity and safety when purchasing through online platforms. These insights align with several previous studies that highlighted the importance of trust, transparency, and secure systems in improving consumer confidence in e-commerce. The paper further outlined key recommendations aimed at enhancing ethical business practices, strengthening consumer trust, and improving overall service quality. Additionally, implications for stakeholders and directions for future research were discussed, emphasising the need for broader samples and exploration of emerging factors influencing online shopping behavior. Overall, the research concludes that ethical practices are essential to shaping purchase intention and sustaining the growth of e-commerce in Sri Lanka.

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