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**HARBOUR JOURNAL OF RESEARCHES (HJR)**

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**THE INFLUENCE OF GRANDPARENT-LED CAREGIVING ON  
EARLY CHILDHOOD DEVELOPMENT AMONG CHILDREN OF  
MIGRANT PARENTS IN RURAL SRI LANKA**

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**ABSTRACT**

Parental labor migration is a prominent socio-economic feature of rural life in Sri Lanka, frequently reshaping the caregiving responsibilities for young children by transferring the daily care of children to grandparents. This conceptual literature review synthesizes peer-reviewed studies, national policy documents and statistical reports published between 2016 and 2026 to examine the influence of grandparent-led caregiving on the cognitive and emotional development of children whose parents have migrated for employment, in the rural Sri Lankan context. Drawing on attachment theory, ecological systems theory, and sociocultural theory, the review argues that grandparent-led caregiving is neither uniformly protective nor uniformly harmful. Its developmental influence is mediated by caregiving quality, household economic

conditions, caregiver health and education, parent–child communication, preschool access, and community support. The Sri Lanka Bureau of Foreign Employment recorded 314,786 departures for foreign employment in 2024, while national policy estimates approximately 230,000–250,000 annual departures and 1.7 million Sri Lankans working overseas. Concurrently, 42.2% of children under five are multidimensionally poor and 16.4% of children aged 0–4 is deprived in early childhood development. The review concludes that grandparent caregivers should be explicitly recognized in early childhood policy, and that family guidance, preschool partnerships, structured parent–child communication, and community-based interventions can strengthen developmental outcomes for children of migrant parents in rural Sri Lanka.

**Keywords:** Grandparent-led caregiving, Parental migration, Early childhood development, Rural Sri Lanka, Left-behind children.

## **1. INTRODUCTION**

Early childhood is one of the most consequential phases of human development. During the first five years of life, children undergo rapid growth in language, memory, attention, emotional regulation, attachment, and early learning readiness, with long-term implications for schooling and wellbeing (UNICEF, 2023). In addition to nutrition and physical protection, young children also require responsive interaction, language stimulation, play, and stable caregiver relationships (Black et al., 2017). Traditionally, in Sri Lanka, the extended family system has been the central provider of early care, with grandparents long involved in feeding, supervision, storytelling, and the transmission of cultural and religious norms, particularly in rural communities (De Silva, 2020).

As the intensity of parental labor migration has increased, this care system has become more complex. When one or both parents migrate for employment, grandparents frequently become the primary caregivers of young children (Ukwatta, 2010; Save the Children, 2019). The Sri Lanka Bureau of Foreign Employment reported 314,786 departures for foreign employment in 2024 (Sri Lanka Bureau of Foreign Employment, 2025), a figure also reflected in central bank reporting (Central Bank of Sri Lanka, 2025). The National Policy and National Action Plan on Migration for Employment 2023–2027 estimates that approximately 230,000–250,000 Sri Lankans depart annually and that approximately 1.7 million Sri Lankan workers are employed overseas (Ministry of Labour and Foreign Employment, 2023). Personal remittances continue to represent a substantial share of Sri Lanka’s gross domestic product (World Bank, 2024).

Several interrelated factors motivate parental migration from rural Sri Lanka. Economically, persistent unemployment, low rural wage rates, household indebtedness, and recurring macroeconomic shocks push working-age adults to seek overseas employment as a livelihood strategy (Wickramasekara, 2016; Ministry of Labour and Foreign Employment, 2023). Socially, migration is often shaped by family aspirations relating to housing, marriage, and intergenerational mobility, as well as by established migration networks within particular villages and districts (Ukwatta, 2010). Educational motivations are also prominent, with many parents migrating specifically to finance their children’s schooling, including private tuition and higher education expenses (Save the Children, 2019). Employment-related factors include the gendered demand for Sri Lankan domestic workers and skilled Laborers in Gulf Cooperation Council states, which absorb the majority of departures (Sri Lanka Bureau of Foreign Employment, 2025). These drivers interact to make labor migration not merely an individual choice but a household-level adaptation, particularly in rural districts such as Kurunegala, Anuradhapura, Monaragala, Kandy, and Matara that consistently record high outflows (Sri Lanka Bureau of Foreign Employment, 2025).

These macro patterns translate at the micro level into a distinctive family arrangement: young children, often below five years of age, residing with grandparents while one or both parents work abroad for extended periods. The emotional relationship between parent and child becomes mediated by phone calls, remittances, occasional visits, and the daily caregiving practices of grandparents. Although the extended family is often regarded as a protective resource (Save the Children, 2019), it cannot be assumed that grandparent care automatically secures positive developmental outcomes. Multidimensional poverty data indicate that 42.2% of children under five in Sri Lanka are multidimensionally poor and that 16.4% of children aged 0–4 is deprived in early childhood development (Department of Census and Statistics & UNICEF, 2023), suggesting that early childhood vulnerabilities and migration-related caregiving arrangements may overlap substantially in rural areas.

This paper examines how grandparent-led caregiving influences early childhood development among children of migrant parents in rural Sri Lanka, with particular attention to cognitive and emotional development. It argues that grandparent-led caregiving can operate as a protective arrangement when grandparents provide stable, affectionate, and stimulating care, but may introduce developmental risks where grandparents are elderly, financially stressed, poorly supported, or unfamiliar with contemporary early childhood practices. The developmental influence is therefore contingent on the quality of care and the broader ecological context.

## **2. LITERATURE REVIEW**

### **2.1. Parental Migration and Children Left Behind in Sri Lanka**

Children whose parents migrate for employment are commonly described as “left-behind children” (Antia et al., 2020). In Sri Lanka, such children typically remain with the non-migrating parent, grandparents, or other relatives, with grandparent caregiving especially prevalent in rural areas where extended family networks remain strong (Ukwatta, 2010; Save

the Children, 2019). Empirical research on Sri Lankan migrant families has indicated that maternal migration has particular implications for younger children's emotional wellbeing, school attendance, and care arrangements (Ukwatta,2010; Hewage et al.,2011). Remittances can improve children's nutrition, schooling, and housing (World Bank, 2024); however, income gains do not automatically translate into developmental gains, as outcomes depend on how remittances are managed and on the broader caregiving environment (Antia et al., 2020).

## **2.2. Grandparents as Substitute Caregivers**

In many rural Sri Lankan households, grandparents are not occasional helpers but central figures in young children's daily lives, managing feeding, hygiene, preschool transport, illness, and emotional support (De Silva, 2020). Cross-national research on grandparent caregiving similarly documents both the strengths and the strains of such arrangements (Hayslip et al., 2019). Grandparents often provide affection, cultural continuity, and a sense of belonging that can buffer the emotional impact of parental absence (Save the Children, 2019; Hayslip et al., 2019). At the same time, grandparent caregivers may experience health challenges, financial stress, low literacy, and emotional fatigue, all of which can constrain their capacity to provide active early stimulation (Hayslip et al., 2019; Xu, 2019).

## **2.3. Grandparent Caregiving and Cognitive Development**

Cognitive development in the early years emerges through everyday interaction conversation, joint attention, storytelling, play, and guided participation in cultural activities (Vygotsky, 1978; Britto et al., 2017). Grandparents can support cognitive development by talking with children, telling folk stories, singing, teaching counting through household objects, and explaining natural and social phenomena (De Silva,2020). However, when caregiving becomes primarily custodial—focused on feeding and safety but with limited verbal interaction or play—cognitive stimulation may be reduced (Britto et al., 2017). The quality of early childhood care and education services compounds this issue: the National Education Commission has

raised concerns about the quality and standardization of early childhood education institutions in Sri Lanka (National Education Commission, 2023), and where preschool quality is weak, children whose grandparents cannot provide additional learning support at home may enter Grade 1 with reduced school readiness.

#### **2.4. Grandparent Caregiving and Emotional Development**

Emotional development is particularly sensitive to disruptions in caregiver availability (Bowlby, 1982; Ainsworth et al., 1978). Young children may interpret parental migration as abandonment unless adults provide age-appropriate explanations and consistent emotional reassurance (Antia et al., 2020). Grandparents can function as substitute attachment figures when they offer affectionate, predictable, and emotionally available care (Hayslip et al., 2019). Conversely, where caregiving is harsh, inconsistent, or emotionally distant, or where communication with the migrant parent is irregular, children may show withdrawal, separation distress, sleep and eating difficulties, or behavioral changes (Antia et al., 2020; Save the Children, 2019). The emotional impact appears especially significant when mothers migrate, when both parents are absent, or when migration is sudden and unexplained (Ukwatta, 2010; Hewage et al., 2011).

#### **2.5. Rural Poverty and Overlapping Vulnerabilities**

Children of migrant parents in rural Sri Lanka rarely face a single risk in isolation. Migration may improve household income, but irregular remittances, recruitment debt, or family conflict over money can leave children in continuing economic hardship (Antia et al., 2020). Multidimensional poverty data show that 42.2% of children under five and 16.4% of children aged 0–4 face deprivations in early childhood development (Department of Census and Statistics & UNICEF, 2023). These structural conditions—limited preschool access, inconsistent health services, and household economic stress—may interact with caregiver

burden to shape developmental outcomes, underscoring the importance of an ecological perspective (Bronfenbrenner, 1979; Britto et al., 2017).

## **2.6. Literature Gap**

Several gaps emerge from the literature reviewed above. First, although Sri Lankan scholarship has examined migration economics and the experiences of school-age children of migrant parents (Ukwatta, 2010; Hewage et al., 2011; Save the Children, 2019), much less attention has been paid to children below five years of age, despite this being the most developmentally sensitive period. Second, international research on left-behind children has expanded considerably (Antia et al., 2020), yet relatively few studies integrate cognitive and emotional developmental outcomes within a single analytical frame, particularly in rural South Asian contexts. Third, grandparent caregiving has been examined in cross-national gerontological research (Hayslip et al., 2019; Xu, 2019) but rarely interpreted explicitly through the combined lenses of attachment, ecological systems, and sociocultural theory in relation to migrant family arrangements. Finally, recent Sri Lankan policy documents (Ministry of Labour and Foreign Employment, 2023; National Education Commission, 2023; Department of Census and Statistics & UNICEF, 2023) provide updated macro-level data but have not yet been systematically synthesized with the international developmental literature on grandparent-led care. This review aims to address these gaps by providing an integrated, theory-informed synthesis focused on the rural Sri Lankan context.

## **3. PROBLEM STATEMENT**

Although grandparent-led caregiving is widespread in rural Sri Lanka, its influence on the development of children below five years of age has received limited academic and policy attention. Existing scholarship has tended to focus on remittance economics, women's migration, or school-age children's educational outcomes, leaving early childhood

development under grandparent-led care substantially under-examined. Grandparent-led caregiving may support young children through continuity, affection, and protection while simultaneously generating risks where caregivers are physically frail, emotionally stressed, financially insecure, or unable to provide early learning stimulation. The cultural normalization of grandparent caregiving as a “natural” arrangement also risks obscuring the developmental and policy dimensions of the practice.

The purpose of this review is therefore to synthesize existing literature on grandparent-led caregiving and its influence on the cognitive and emotional development of young children whose parents have migrated for employment in rural Sri Lanka. The review is guided by three specific objectives: (a) to examine how grandparent-led caregiving influences young children’s cognitive development; (b) to examine how grandparent-led caregiving influences young children’s emotional development; and (c) to identify the conditions under which grandparent-led caregiving strengthens or weakens developmental capacity in the rural Sri Lankan context. Accordingly, the review addresses three questions:

(1) How does grandparent-led caregiving influence cognitive development in young children of migrant parents?

(2) How does grandparent-led caregiving influence emotional development in this group?

(3) Which protective and risk factors mediate or moderate these influences in rural Sri Lankan settings?

### **3.1. Theoretical Framework**

The review is informed by three complementary theoretical perspectives. Attachment theory (Bowlby, 1982; Ainsworth et al., 1978) posits that young children require a stable, responsive, and emotionally available caregiver to develop a sense of security. Where a parent migrates, the child may experience separation distress, but a grandparent who provides consistent

affection and predictable routines can become a substitute attachment figure, reducing the emotional impact of parental absence. Conversely, inconsistent, harsh, or emotionally distant caregiving can foster insecurity. Attachment theory therefore directs analytical attention to the quality of grandparent–child interaction rather than to the caregiving arrangement itself.

Bronfenbrenner’s (1979) ecological systems theory frames child development as the product of nested environmental systems: the immediate family (microsystem), interactions between settings such as home and preschool (mesosystem), institutions that indirectly affect the child (exosystem), and broader cultural and policy contexts (macrosystem). For children of migrant parents, development is shaped not only by the grandparent caregiver but also by remittance flows, parent–child communication patterns, preschool quality, rural service provision, and migration governance. A loving grandparent embedded in a weak preschool system and an isolated rural community may face developmental constraints that even strong affection cannot overcome, whereas a less resourceful grandparent supported by relatives, teachers, and consistent migrant-parent contact may sustain stronger outcomes.

Vygotsky’s (1978) sociocultural theory emphasizes that cognitive development emerges through social interaction, language, and culturally mediated tools, guided by “more knowledgeable others.” Grandparents in rural Sri Lanka frequently occupy this role through storytelling, songs, religious instruction, folk games, and everyday tasks that introduce vocabulary, classification, memory, and moral reasoning (De Silva, 2020). However, grandparents may have limited familiarity with contemporary play-based pedagogies, emergent literacy, or numeracy activities (National Education Commission, 2023), and may therefore benefit from partnership with preschool teachers and community-level early childhood development workers.

## **4. MATERIALS AND METHODS**

### **4.1. Research Design**

This paper adopts a conceptual narrative literature review design to synthesis peer-reviewed scholarship, national policy documents, and statistical reports on grandparent-led caregiving and early childhood development in rural Sri Lanka. A narrative review approach was selected because the available evidence base is interdisciplinary, draws on grey literature alongside academic sources, and requires interpretive integration rather than statistical aggregation (Greenhalgh et al., 2018). Unlike systematic reviews, narrative reviews permit theoretical interpretation across diverse source types, which is appropriate for an under-researched intersection of migration, family, and early childhood development.

### **4.2. Source Selection and Inclusion Criteria**

Sources were identified through structured searches of Google Scholar, ResearchGate, the UNICEF and World Bank repositories, and Sri Lankan government publication portals, using combinations of the search terms “grandparent caregiving,” “left-behind children,” “parental migration,” “early childhood development,” “Sri Lanka,” and “rural caregiving.” Inclusion criteria were as follows: (a) sources published between 2016 and 2026 for empirical and policy literature; (b) foundational theoretical works (Bowlby, 1982; Bronfenbrenner, 1979; Ainsworth et al., 1978; Vygotsky, 1978) included as classical references; (c) materials in English; and (d) relevance to early childhood development, grandparent caregiving, or labour migration in South Asia, with priority given to Sri Lankan sources where available. Sources without verifiable publication details were excluded.

### **4.3. Data Synthesis**

The synthesis proceeded thematically. The identified literature was clustered into themes (parental migration patterns, grandparent caregiving roles, cognitive development, emotional development, and structural vulnerability) and then interpreted through three theoretical lenses:

attachment theory, ecological systems theory, and sociocultural theory. Three composite, illustrative case vignettes were constructed by the author to illustrate how the synthesised themes may manifest in everyday rural settings. These vignettes are not empirical case studies and do not represent identifiable individuals; they are pedagogical composites informed by the reviewed literature and used solely to illustrate analytical points.

#### **4.4. Ethical Considerations**

As no primary data were collected and no human participants were involved, formal ethics approval was not required. Ethical considerations were limited to ensuring that the illustrative composite vignettes did not represent or identify any real individual, household, or community. All cited sources are properly attributed in accordance with APA 7th edition referencing conventions.

### **5. FINDINGS AND RESULTS**

Synthesizing the reviewed literature through the three theoretical lenses yielded four interconnected findings about grandparent-led caregiving and early childhood development in rural Sri Lanka.

#### **5.1. Caregiving Quality Mediates Migration's Developmental Impact**

Across the reviewed evidence, parental migration does not produce uniform developmental effects; rather, its impact is mediated by caregiving quality. Where grandparents provide affectionate, responsive, and stimulating care, children appear to manage parental absence without significant developmental harm (Save the Children, 2019; Hayslip et al., 2019). Where care becomes custodial or emotionally distant, however, both cognitive and emotional vulnerabilities emerge (Antia et al., 2020; Britto et al., 2017). This mediating role of caregiving quality is consistent with attachment theory's emphasis on caregiver responsiveness (Bowlby, 1982; Ainsworth et al., 1978).

## **5.2. Cognitive Outcomes Depend on Interaction Richness**

Grandparents can be effective scaffolders of cognitive development when daily interaction includes conversation, storytelling, counting, and guided participation in household activities (Vygotsky, 1978; De Silva, 2020). However, several factors can limit interaction richness: caregiver fatigue, multiple household responsibilities, low literacy, and a perception that early stimulation is the preschool's responsibility rather than the family's (Britto et al., 2017; National Education Commission, 2023). Where preschool quality is also weak, children may experience compounded stimulation deficits, with implications for school readiness.

## **5.3. Emotional Outcomes Relate to Communication Practices**

Emotional development under grandparent-led care is closely linked to how parental migration is communicated to the child and how contact with the migrant parent is sustained. Honest, age-appropriate explanations and predictable communication routines (phone calls, voice messages, video calls) appear protective, while avoidance of the topic, irregular contact, or misleading framing tend to deepen confusion and distress (Antia et al., 2020; Save the Children, 2019). Maternal migration and absence of both parents amplify these effects, particularly for very young children (Ukwatta, 2010; Hewage et al., 2011).

## **5.4. Structural Conditions Shape Caregiving Capacity**

Caregiving practices unfold within structural conditions that either expand or constrain grandparent capacity. Rural poverty, preschool quality, health service availability, and community support all enter the child's ecological environment (Bronfenbrenner, 1979). With 42.2% of children under five identified as multidimensionally poor (Department of Census and Statistics & UNICEF, 2023), grandparent caregiving in many rural households is undertaken under conditions of economic stress that limit even well-intentioned care.

## **5.5. Illustrative Composite Vignettes**

The following composite vignettes, constructed from patterns in the reviewed literature, are illustrative only and do not represent specific individuals.

### **5.5.1. Vignette 1: a protective caregiving configuration**

A four-year-old girl lives with her grandmother in a rural village while her mother works in the Middle East as a domestic worker. The grandmother prepares meals, takes the child to preschool, tells folk stories, and maintains daily religious practices. Remittances support nutrition and preschool fees, and the mother sustains a routine of twice-weekly video calls. Mapped to the framework, the grandmother functions as an effective substitute attachment figure (Bowlby, 1982), Vygotskian scaffolding occurs through storytelling and household participation (Vygotsky, 1978), and the wider ecological system—remittances, communication, preschool—supports rather than strains the arrangement (Bronfenbrenner, 1979).

### **5.5.2. Vignette 2: caregiver burden and reduced stimulation**

A three-year-old boy lives with elderly grandparents while both parents work abroad. Care is largely custodial; play, conversation, and storytelling are limited by caregiver fatigue and household stress. Parental contact is monthly and irregular. The vignette illustrates how custodial caregiving combined with attenuated communication can constrain both cognitive stimulation and emotional reassurance (Britto et al., 2017; Antia et al., 2020).

### **5.5.3. Vignette 3: economic gain alongside emotional gap**

A five-year-old child lives with her grandmother while her mother works abroad. Remittances have improved housing and clothing, yet the grandmother avoids discussing the migrant mother, fearing the child's distress. The child becomes emotionally withdrawn at preschool collection times. This vignette illustrates that economic improvement is insufficient when

communicative practices fail to acknowledge the child’s emotional experience (Save the Children, 2019).

**5.6. Conceptual Framework: Mediators and Moderators**

Table 1 summarizes the key mediators and moderators that condition the developmental influence of grandparent-led caregiving on children of migrant parents.

**Table 5.1 Mediators and moderators of grandparent-led caregiving on early childhood development**

<b>Factor</b>	<b>Protective Pathway</b>	<b>Risk Pathway</b>
Remittances	Improved nutrition, preschool access, learning materials	Money cannot substitute for emotional caregiving
Caregiver affection	Emotional security, sense of belonging, attachment continuity	Overprotection may limit autonomy and exploration
Caregiver education	Better support for language and preschool readiness	Limited literacy may constrain early learning at home
Caregiver health	Stable, active caregiving	Illness reduces patience, supervision, and active stimulation
Parent–child communication	Sustained emotional bond, age-appropriate explanation	Irregular or avoidant contact increases insecurity
Preschool quality	Cognitive and social development; complement to home care	Weak preschools amplify home-stimulation deficits
Community support	Reduces caregiver burden; coordinated services	Isolation increases caregiver stress and developmental risk
Migration duration	Short, predictable absences manageable with planning	Prolonged, unplanned absences weaken parent–child attachment

*Source: Compiled by the authors based on the literature reviewed*

## **6. INTERPRETATION AND DISCUSSION**

The findings indicate that grandparent-led caregiving in rural Sri Lanka should be understood as a family adaptation to labor migration carrying both protective potential and developmental risk. The extended family's capacity to absorb caregiving responsibility represents a genuine social strength: it protects children from neglect, sustains cultural continuity, and provides emotional anchoring (Save the Children, 2019; De Silva, 2020). Yet this strength can mask the structural costs of migration, particularly for elderly caregivers managing chronic illness, financial pressure, and the emotional labor of raising a young child while worrying about an absent adult son or daughter (Hayslip et al., 2019; Xu, 2019).

Reading the findings through attachment theory clarifies why caregiving quality—rather than caregiving arrangement—emerged as the most consistent mediator (Finding 1). A grandparent who is consistently affectionate and emotionally available can function as a secure attachment figure (Bowlby, 1982; Ainsworth et al., 1978), buffering the impact of parental absence. By contrast, where care becomes custodial or emotionally distant, the absence of a responsive attachment figure intensifies separation-related vulnerabilities. Affection alone, however, is not sufficient. Children also require active interaction, language exposure, play, and sensitive emotional guidance (Britto et al., 2017; Vygotsky, 1978). Programs that support grandparents should therefore extend beyond income transfers to include practical guidance on talking, reading, storytelling, and emotional reassurance.

Vygotsky's sociocultural framework helps explain Finding 2: cognitive development under grandparent-led care depends on the richness of guided interaction. Grandparents who engage children as "more knowledgeable others" through stories, songs, and household participation scaffold language, memory, classification, and moral reasoning (Vygotsky, 1978; De Silva,

2020). When this interaction is limited—by fatigue, literacy constraints, or a perception that stimulation is the preschool’s responsibility—cognitive opportunities narrow.

Bronfenbrenner’s ecological systems theory provides the most comprehensive interpretive frame for Findings 3 and 4. Emotional outcomes depend not only on the microsystem (the grandparent–child dyad) but also on the mesosystem of family–preschool linkages and the macrosystem of migration governance and policy (Ministry of Labour and Foreign Employment, 2023). Communicative practice within migrant families therefore merits direct policy attention. Children appear to fare better when adults provide simple, honest explanations of migration—framing the parent’s departure as work undertaken on the family’s behalf rather than evading the question (Antia et al., 2020). Migrant parents should be encouraged to maintain predictable, affectionate communication that complements remittances rather than substituting for them.

Finally, preschools occupy a strategic position within the ecological system. Teachers are often the first to notice withdrawal, behavioral change, or developmental delay in children of migrant parents, and preschools can act as coordination points linking grandparents, public health midwives, early childhood development officers, and child rights promotion officers (National Education Commission, 2023). Strengthening this coordination is consistent with both Bronfenbrenner’s (1979) mesosystem logic and Sri Lanka’s migration governance commitments (Ministry of Labour and Foreign Employment, 2023).

## **7. CONCLUSION**

Grandparent-led caregiving is an important but under-recognized feature of early childhood development among children of migrant parents in rural Sri Lanka. It reflects the resilience of the extended family and the willingness of grandparents to safeguard young children during

parental absence, while also exposing structural pressures on elderly caregivers and on the broader early childhood care and education system. Drawing on attachment theory, ecological systems theory, and sociocultural theory, the review has argued that the developmental influence of grandparent-led caregiving is contingent on caregiving quality, family support, preschool access, parent–child communication, household economic stability, and community services. A child-sensitive approach to labor migration is therefore necessary.

### **7.1. Recommendations**

Several recommendations follow from the synthesis. First, early childhood policy in Sri Lanka should explicitly recognize grandparent caregivers as a target group, rather than treating them as informal extensions of parental care. Second, simple, practical caregiver-support resources—covering responsive interaction, storytelling, positive discipline, and emotional reassurance—should be delivered through preschools, public health midwives, and community officers. Third, pre-departure orientation for migrant workers should embed child-development guidance, including caregiver selection, age-appropriate communication with children, and routines for sustained contact. Fourth, preschools should be strengthened as coordination hubs for migration-affected households, with simple monitoring tools to identify children whose parents are abroad and to provide tailored support.

### **7.2. Limitations**

This review is subject to several limitations. As a conceptual narrative review, it does not apply systematic-review protocols and is therefore not exhaustive of all available literature. The evidence base on grandparent-led caregiving and early childhood development specifically within rural Sri Lanka remains limited; consequently, the synthesis draws partly on international literature whose generalizability to the Sri Lankan socio-cultural context may be uneven. The illustrative composite vignettes are interpretive rather than empirical, and the

conceptual framework presented in Table 1 has not yet been tested against primary data. Findings should therefore be read as analytically suggestive rather than empirically conclusive.

### 7.3. Future Research Directions

Future research should complement this conceptual analysis with primary empirical work in the Sri Lankan context. Mixed-methods designs combining household surveys, standardised child-development assessments, and qualitative interviews with grandparents, migrant parents, and preschool teachers would be especially valuable. Comparative studies across high-migration rural districts could clarify how local labour market conditions, preschool quality, and community resources mediate developmental outcomes. Longitudinal designs tracking children of migrant parents from infancy through early schooling would help to test and refine the conceptual framework proposed here. Finally, intervention research evaluating grandparent-focused parenting programs, structured migrant-parent communication protocols, and preschool coordination models could generate actionable evidence for early childhood and migration policy in Sri Lanka.

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**A COMPARATIVE STUDY OF THE EFFECTIVENESS OF SCHOOL-  
BASED ASSESSMENT AND THE PROPOSED SCHOOL LEVEL  
ASSESSMENT UNDER THE NEW EDUCATIONAL POLICY IN SRI  
LANKA**

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**ABSTRACT**

The education system in Sri Lanka has historically been dominated by inflexible public written examination, resulting in restricted constrains on comprehensive learning, formative assessment and competency development. Despite the School Based Assessment (SBA) framework was launched in 1998 and amended through educational circular No. 23/2017 of Ministry of Education, the earliest studies have mainly aimed on its proper implementation challenges and policy implications, with few quantitative comparisons between SBA and newly proposed School Level Assessment (SLA) framework. This study discusses this gap by quantitatively probing the comparative effectiveness, compatibility and challenges of implementation of SBA and SLA in the Batticaloa district of Sri Lanka. A descriptive statistical design was applied using a sample of 180 surveyed individuals including school principal, teacher advisors and school teachers selected through stratified random sampling. Data was

gathered by systematic questionnaires using a five-point Likert scale and analysed using descriptive statistics, independent t-tests, Pearson correlation and multiple regression analysis. The results revealed that SLA received potentially higher means scores in the effectiveness of assessment ( $M = 4.18$ ,  $SD = 0.52$ ) compared to SBA ( $M = 3.11$ ,  $SD = 0.67$ ), with competency-based assessment, electronic performance monitoring system and teacher training appearing as significant predictors of effectiveness of SLA ( $p = 0.05$ ). The study supports to the formative assessment in new educational policy by giving empirical evidence on the comparative strengths and weakness of SBA and SLA while providing policy recommendations for successful implementation of SLA. The evidence of this study advocate that School Level Assessment has stronger potential to transform paper-pencil oriented education culture and to foster competency based comprehensive learning in Sri Lanka.

**Keywords:** School based assessment, School level assessment, Competency-based assessment, Batticaloa.

## **1. INTRODUCTION**

Assessment is a fundamental element of education because it reorganises pedagogical methods, learning experiences of students and educational impacts. The school system has traditionally depended on compulsory written public examinations such as the General Certificate of Education Ordinary Level (G.C.E. O/L) and General Certificate of Education Advanced Level (G.C.E. A/L) examinations in Sri Lanka. These examinations influentially determine academic and professional opportunities of students, learning to paper-pencil examination orienteered culture that emphasizes memorization and rote learning rather than development of competencies such creativity, critical thinking and problem-solving abilities.

To resolve these drawbacks, the Ministry of Education launched the School Based Assessment (SBA) in 1998 through educational circular No. 1998/04. SBA focused to enhance formative assessment practices by integrating classroom participation. Later, educational circular No. 23/2017 was further amended SBA to enhance competency-based learning and learner centred assessment strategies by modalities such as assignments, debates, practical activities, quiz programmes, open book test, listening test, concept map, presentations, role plays, speech, group activities, wall papers, creative activities, collection of own creations, double entry journal, short written test and project work in the evaluation of students.

Despite this amendment, implementation of SBA has been affected by so many factors. Teachers felt it as an unnecessary heavy workload because, there is no any contribution of SBA in national level general examinations, inconsistent moderation procedure, inadequate training and limited stakeholder confidence in SBA practices. A few students may obtain benefits by considering the School Based Assessment competency levels to get the admission to GCE (A/L) under the General Qualifications based on the educational circular No. 23/2017 of ministry of education. If a simple pass has been obtained in written test in GCE (O/L) Examination for a subject and a credit or higher competency level has been obtained for that subject under the SBA, it will be considered as one credit pass. But this is not relevant to the subjects of language and mathematics. However, it is rare in practice at schools' level because of lack of awareness of school society. Therefore, expected importance on SBA has been reduced among students, teachers, principal, and parents.

The School Level Assessment (SLA) framework introduced under the recent educational reform in Sri Lanka; through the proposed national policy initiative, Transforming General Education in Sri Lanka 2025. SLA represents a significant shift towards competency based and modular assessment systems. Unlike SBA, SLA assigns grater weightage to school level

assessment by contributing 70% of marks to national level examinations, integrating data logging mechanisms and reinforcing activity orienteered learning and practical competencies.

Although earliest studies have expressed SBA and competency-based assessment separately, there is a rare empirical analysis comparing SBA and SLA quantitatively. So, this study investigates the comparative effectiveness, strategies of implementation and stakeholder perceptions of SBA and SLA in Batticaloa district of Sri Lanka.

### **1.1. Objectives Of Research:**

- To compare the structural and conceptual features of SBA and SLA.
- To evaluate the effectiveness of SBA and SLA in enhancing competency-based learning.
- To identify the challenges of implementation associated with SBA and SLA.
- To examine factors influencing the perceived effectiveness of SLA.

## **2. LITERATURE SURVEY**

Educational reform including assessment all-over the world increasingly reinforces formative and competency-based approaches. Black and William (1998) stated that formative assessment enhances achievement of students by giving continuous and prompt feedback that improves learning process. The Organisation for Economic Co-operation and Development (2013) reinforced that competency-based assessment initiates critical thinking, creativity and problem-solving abilities essential for twenty first century education.

Sri Lanka has historically been constrained by a rigid, examination orienteered culture that relies heavily on summative, paper-pencil testing and content loading which produce significant stress among students and parents alike, while failing to impart critical, employable competencies needed in a modern knowledge economy. To overcome this burden of

assessment and foster comprehensive student development, institutional frameworks have highly emphasised for the consideration of formative assessment methods (National Education Commission, 2014).

SBA was introduced to the Sri Lankan education system in 1998 as formative assessment. It was conceptualised as a means of bringing students to the expected level of proficiency through frequent investigation into the strength and weaknesses of students by the teacher by moving with them while they are engaged in learning (National Institute of Education, 1997). The ultimate aim was to produce a fully-fledged person with a balanced personality. The initiative envisaged a shift from a culture of evaluation where the student is judged by a summative test to a culture of assessment where the student's overall development is monitored based on criteria and relative to his/her previous position rather than comparing the student with others.

However, many researchers highlighted that SBA was not implemented effectively at the expected level in Sri Lanka. Karunaratne (2012) investigated the implementation of SBA in junior secondary and senior secondary Science Classrooms Island wide and identified a substantial gap between the intended objectives of SBA and its actual classroom practice. The study reported that assessment practices were often limited to traditional testing methods rather than various formative assessment strategies. Many teachers with poor understanding of assessment modalities, had received insufficient training on SBA implementation, and rarely maintained systematic assessment records. Moreover, culturally responsive feedback mechanisms and professional support for improving assessment practices were found to be inadequate. These findings emphasised the need for continuous professional development, strengthened supervision, and enhanced assessment literacy among teachers to achieve the deliberate aim of SBA.

Thusarika and Nawastheen (2019) studied the perceptions of teachers and students regarding SBA in 1C schools in the Minuwangoda Educational Zone of the Gampaha District. Their findings revealed deliberate perceptions toward SBA among both teachers and students. While students showed negative perceptions toward SBA, teachers acknowledged that assessment practices positively impact on learning outcomes of students and contribute to continuous monitoring of academic progress by providing culturally responsive feedback. Many students felt SBA as an unnecessary burden due to the excessive workload associated with assessment modalities which were considered as another examination process, not as a process which facilitate teaching and learning. This study further emphasised that although teachers recognized the educational value of SBA, greater efforts were needed to communicate students' negative perceptions and improve their engagement with the assessment process.

Sachith and Niroshinie (2025), through a systematic review of School-Based Assessment practices across twelve countries, highlighted SBA as a significant educational reform strategy that promotes learner-centred learning, formative assessment, deep learning, intrinsic motivation, and meaningful learner engagement. The review revealed that despite variations in implementation models between Western learner-centred systems and Asian centrally regulated systems, SBA consistently contributes to the holistic development of students by encouraging active participation and higher-order thinking. However, the authors identified several common challenges that hinder effective implementation, including excessive teacher workload, limited assessment literacy, inadequate professional development opportunities, and concerns regarding the reliability and consistency of SBA practices in Sri Lanka. The study further highlighted that continuous teacher capacity-building, systematic moderation procedures, and coherent policy support are essential for ensuring the quality, fairness, and effectiveness of SBA programmes in enhancing educational outcomes.

The SLA framework marks a fundamental transformation in assessment system of Sri Lanka by establishing school level assessment as the primary basis for student evaluation under the reforms introduced through Transforming General Education in Sri Lanka 2025. SLA shifts the focus from paper-pencil examination driven practices to continuous, competency-based assessment aimed at supporting comprehensive learning and meaningful educational outcomes. A key objective of SLA is to strengthen learner-centred learning by highlighting understanding, critical thinking, creativity, and application of knowledge rather than performance ranking. Aligned with global trends SLA also aims to develop 21<sup>st</sup> century and future ready competencies, including problem solving, effective communication and digital literacy. This is carried out through competency-based assessment organized into modular, credit based learning units, enabling flexible progression and recognition of diverse learning pathways.

### **3. PROBLEM DEFINITION**

Most of the earliest findings on school assessment reform in Sri Lanka focused mainly on policy analysis, qualitative interpretation or practical implementation challenges related to SBA. Restricted qualitative evidence prevails regarding stakeholders' perceptions of the newly proposed SLA framework. Moreover, comparative statistical analysis between SBA and SLA remains insufficient in educational literature. This study investigates these phenomena by providing quantitative evidence using descriptive statistics, correlation analysis, regression analysis and independent sample t-test.

The results contribute to educational policy making by identifying factors that impact the effectiveness of SLA and giving recommendations for enhancing competency-based assessment in educational policy reform in Sri Lanka.

### **3.1.Hypothesis Of Research:**

H1: There is a significant difference between teachers' perceptions of effectiveness of SBA and SLA.

H2: Competency based assessment practices positively influence perceptions of SBA and SLA.

H3: Electronic performance monitoring system significantly contributes to the effectiveness of SLA.

## **4. MATERIALS & METHODS**

### **4.1. Research Design**

This study involved a quantitatively descriptive statistics design to compare perceptions of stakeholders regarding SBA and newly proposed SLA and obtain the objectives of the study in the Batticaloa District of Sri Lanka.

### **4.2. Population and Sample**

The target population comprised of principals, teacher advisors, and teachers working in secondary schools over five educational zones in the Batticaloa District. Using stratified random sampling, a sample of 180 stakeholders were selected, including 140 teachers, 25 principals and 15 teacher Advisors.

### **4.3. Data Collection**

A structured questionnaires was developed based on a comprehensive review of literature related to SBA and SLA competency-based reforms. The instrument was specifically designed to operationalize three key independent variables such as competency-based practices, electronic performance monitoring systems and training for teachers. Responses were measured using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Content validity was ensured through expert review by specialists in educational

management and assessment. Reliability testing using Cronbach's Alpha produced a reliability coefficient of 0.87, indicating high internal consistency of the instrument.

#### 4.5. Data Analysis

Data were analysed using SPSS. Descriptive statistics, independent t-tests, Pearson correlation and multiple regression analysis were carried out to analyse research hypothesis.

#### 4.6 Ethical Considerations

The study strictly adhered to ethical principles, ensuring the protection, dignity, and confidentiality of all participants. Approval was secured from the Zonal Directors of Education prior to data collection. Participants were fully informed of the purpose of study, the voluntary nature of their involvement, and their right to withdraw at any time.

### 5. FINDINGS & RESULTS

#### 5.1. Comparative Analysis of SBA And SLA

**Table 5.1 Significant differences between respondent perceptions on effectiveness of SBA and proposed SLA**

<b>Assessment Framework</b>	<b>Mean</b>	<b>Standard Deviation</b>
SBA	3.11	0.67
SLA	4.18	0.52

*Source: Survey Data*

SLA obtained potentially higher means scores and lower standard deviation ( $M = 4.18$ ,  $SD = 0.52$ ) compared to SBA ( $M = 3.11$ ,  $SD = 0.67$ ) in the effectiveness of assessment.

## 5.2. Correlation Analysis

**Table 5.2 Pearson correlation analysis between SLA effectiveness and selected independent variable**

Assessment Framework	R-value	significance
competency-based	0.71	P < 0.05
Electronic performance monitoring system	0.64	P < 0.05
Training for teachers	0.58	P < 0.05

*Source: Survey Data*

The result show that there was a positive and significant relationship between effectiveness of proposed SLA and selected independent variables.

## 5.3. Regression Analysis

**Table 3: Regression analysis of factors influencing of SLA effectiveness**

Assessment Framework	Beta	t-value	significance
competency-based	0.48	5.72	P < 0.05
Electronic performance monitoring systems	0.36	4.81	P < 0.05
Training for teachers	0.29	3.59	P < 0.05

*Source: Survey Data*

The result show that selected independent variables significantly predict the effectiveness of proposed SLA.

## 6. INTERPRETATION & DISCUSSION

Comparative analysis of SBA and proposed SLA revealed that the higher mean score for SLA indicates that Principal, Teacher Advisors and Teachers perceived SLA as more effective in promoting competency-based learning and comprehensive assessment practices. Respondents particularly appreciated the integration of practical activities, standardised assessment tools,

modular learning units, and ability to enhance fairness, consistency, digitalised monitoring systems and reliability practices within proposed SLA. The lower standard deviation of SLA further suggests that the stronger confidents of stakeholders on effectiveness of proposed SLA. The lower mean score for SBA indicates that inconsistency, insufficiency of the method to measure the students' abilities, current challenges of implementation in class rooms such as rare opportunities for motivating students, difficulty for awarding marks because the minimum marks has been decided already, time related issues. No contribution SBA in national level general examination also highly influence the lower means for SBA.

Hypothesis 1 was accepted because of the independent sample t-test showed a statistically significant difference between effectiveness of SBA and SLA ( $t = 8.42, p < 0.05$ ).

Correlation analysis indicates a strong positive relationship between competency-based assessment practices and SLA effectiveness. Similarly, electronic performance monitoring systems significantly contributed positively to the perceptions of respondents. The competency-based assessment practices suggested skills-oriented outcome-based assessment approaches to enhance effectiveness and that make relief for students from written examination culture and over burden. The positive correlation of digitalised monitoring system highlights improves efficiency, transparency and accuracy in assessment practices by integrating technology. The positive correlation with training for teachers on effectiveness of SLA emphasises the needs of school based professional teacher development in the effective implementation of proposed SLA.

The regression model explained 62% of the variance in SLA effectiveness ( $R^2 = 0.62$ ). Competency-based assessment practices emerged as the strongest predictor, followed by electronic performance monitoring systems and training for teacher. Therefore, Hypotheses 2 and 3 were accepted.

## 7. CONCLUSION

This study compared the effectiveness and perceptions of implementation of SBA and the proposed SLA framework of educational policy reform context in Sri Lanka. The results revealed that SLA gained significantly higher effectiveness scorings than SBA due to its competency-based orientation, electronic performance monitoring systems and stronger integration with pedagogy. These findings advocate that SLA has greater potential to transform the examination-oriented educational culture and promote comprehensive student learning in Sri Lanka.

The study contributes to educational research by presenting empirical quantitative evidence regarding assessment in new educational reform in Sri Lanka. Policymakers should consider school based professional teacher development, technological infrastructure, and national moderation mechanisms to ensure successful implementation of SLA. Future research may develop longitudinal impacts of SLA on student achievement and pedagogical practices.

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**BIG FIVE PERSONALITY TRAITS AS MEDIATORS BETWEEN  
FINANCIAL LITERACY AND INVESTMENT DECISION-MAKING: A  
REFERENCE TO SRI LANKAN STATE UNIVERSITY**

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**ABSTRACT**

The purpose of this study is to examine the relationship between financial literacy and investment choices made by management undergraduate students at a state university in Sri Lanka, with the mediating influence of the Big Five personality traits. This study adopted a quantitative research approach utilizing a cross-sectional survey design. The target population comprised 520 undergraduate students, from which questionnaires were distributed to 222 participants using a self-administered survey method. A total of 147 completed questionnaires were returned and used for the analysis. The regression analysis was used to evaluate the data and the outcomes show that the variables have a high degree of dependability. Investment

decisions and Big Five characteristics are positively impacted by financial knowledge. Investment decisions are influenced by personality factors, which partially mediate this link. Understanding these dynamics, financial education programs can empower undergraduates to make informed financial decisions for long-term well-being. The study focuses solely on undergraduates from a university. Expanding the sample size and employing an extended Likert scale may improve the reliability while addressing response biases. Expanding the sample size beyond 147 participants could strengthen findings on investment decisions among diverse Sri Lankan investor groups. Tailored financial literacy programs for adolescents and retirees may improve investment decision-making. Firms offering personalized financial guidance aligned with investors' profiles might increase market engagement. Cross-country studies could uncover factors influencing investor decisions. Policymakers should prioritize financial education to promote economic growth and individual financial well-being.

**Keywords:** Big-Five Personality Traits, Financial Literacy, Investment Decisions

## **1. INTRODUCTION**

Traditional finance mostly never allows the study of how individuals or personalities could affect investment decisions (Sivaramakrishnan et al., 2017). To mitigate this gap, behavioural finance emerges to deal with how psychological factors influence investment choices and trading habits. It helps to enlighten the difference between expectations of rational investor behaviour and their actual behaviour. The emotions and behavioral patterns that differ when investors make big investment decisions demonstrate the complexity of the process (Herliana et al., 2023). According to Roberts (2009), personality traits are a person's preferred ways of thinking, feeling, and acting that set them apart from other people. Further, it indicates a person's tendency to respond differently depending on the situation. One popular method for representing the individual's personality is the five-factor theory, also referred to as the Big-

Five personality theory and OCEAN theory, which identifies five distinct factors: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. According to Zuckerman (2007), personality differences may affect investors' tendency to take risks when making investment decisions.

The appeal of investing in financial markets has increased over the past few decades among various investors, such as individuals or institutions. Based on Kimiyaghalam & Safari (2015), financial practices can be part of those who know it. This financial knowledge is termed financial literacy. The ability and expertise required for individuals to understand and manage their finances effectively. It entails having the necessary skills and comprehension requisite to make economically sound choices, budget, save, invest, borrow, and plan for the future.

Financial literacy is the understanding of basic financial principles and ideas, such as budgeting, interest rates, and debt (Noctor et al., 1992). Furthermore, a combination of financial knowledge, abilities, attitudes, and behaviours necessary to make informed financial decisions based on individual and financial circumstances to improve one's financial well-being is known as financial literacy (Abeyasurya, 2022). It is crucial for the growth of a nation's markets as well as for each individual (Bağcı & Kahraman, 2020). Moreover, participation in the contemporary economy requires financial literacy. Concerns regarding people's financial literacy have grown across a number of nations as a result of significant advancements in the financial sector (OECD, 2013).

The current economic downturn has brought to light the crucial role of financial literacy in both the everyday lives of individuals and the larger economic context. Financially ill-treated individuals are more prone to make poor choices in terms of saving, borrowing, investing, and protecting their assets. According to Lusardi (2019), financial skills are more important than ever. Students play an important role in the economy through their significant contributions.

By developing financial literacy, students can learn how to manage their money effectively, budget wisely, and save for the future. Ibrahim et al. (2009) claim that a number of student demographic factors, including socioeconomic background, family sophistication, financial attitude, and awareness, have a significant influence on students' levels of financial literacy.

The interplay between the mindset of investors and financial knowledge is crucial in light of these situations. Sri Lanka's rapidly expanding economy and diverse investor base emphasize how important it is to look at this association. As a result of lower financial literacy, economic health will be affected, thus individuals as well as the country's reputation will also be damaged. In the process of making investment decisions, relying on one's ability to understand and utilize their financial information, as well as their personality, could give way to new judgment. Therefore, in this study, researchers attempt to examine the impact of Financial Literacy on Investment Decisions: A Study on the Mediating Role of Big-Five Personality Traits of Sri Lankan undergraduates.

## **2. RESEARCH PROBLEM**

In 2022, Sri Lanka's economy faced the most severe economic crisis since gaining independence from Britain in 1948. The crisis increased risks and vulnerabilities in the country's financial sector (Central Bank, 2022). Those effects continue till 2024. Due to this crisis, investors in Sri Lanka have become more cautious and risk-averse, leading to a decrease in investment activity. The uncertainty and volatility caused by the financial crisis have made investors hesitant to allocate their funds in various financial forms. Ultimately, investment decisions became critical and varied from individual to individual and took time and effort to decide how much they were ready to spend on investment opportunities. Most people do not understand the long-term effects of their decisions and only focus on their short-term financial situation (Abey Suriya, 2022). Financial literacy can also help people prepare for harsh financial

times by supporting risk-mitigation measures such as accumulating savings, diversifying assets, and purchasing insurance (Kumari, 2020). Successful investment decisions depend heavily on an individual's level of financial literacy. A financially literate individual can develop a map to understand how money works, how to manage income and expenses, what and where to invest, and how to handle financial risks effectively (Bhalla, 1982). Evidence shows that Sri Lanka has the highest gap between adult literacy and financial literacy and South Asia has the lowest percentage of financial literacy, with Sri Lanka at approximately 35% (Abeyesuriya, 2022). To promote financial literacy, the Central Bank began numerous programs this year with the cooperation of its six regional offices (Central Bank, 2022). Further, lower financial literacy leads to self-exclusion and financial exclusion, whereas higher financial literacy is associated with self-sufficiency and financial stability.

Dinc Aydemir & Aren (2017) indicated that individuals do not always behave rationally, and there are several factors that affect the financial decisions of an individual. According to Kourtidis et al. (2017), personality traits influence trading behaviour and investors' performance. It is well recognized that each person possesses the five personality traits to varying degrees. Additionally, by employing some aspects of the Big Five Personality Traits, investors may make wise decisions (Mendoza et al., 2023). Simultaneously, it is found that students have minimal knowledge in finance and poor financial management behaviour (Amanah et al., 2016). During the university period, students are in transition from being previously dependent on parental financial expertise into individuals who must make their own financial decisions based on their needs (Ameliawati & Setiyani, 2018). Further, Subiaktono (2013) pointed out that a person's financial foundation is built between the ages of 20 and 30, which is the average age of students, and they ought to have been able to develop financial habits now. The behaviour of students determines their attitude towards spending money provided by their parents. Generally, students prioritize their wants over needs and struggle

with managing their credit. If students lack knowledge and expertise in finance, they are more likely to mismanage financial resources. Therefore, focusing on undergraduates' capacity to use their financial knowledge, as well as how their personality traits influence investment decisions, may lead to fresh judgment in the decision-making process for students. Moreover, a dearth of studies exists in Sri Lanka on the correlation between investment decisions and the Big Five personality traits, as well as the influence of financial literacy on these attributes. The majority of research in this field has been done in other nations, which leaves a clear gap in our knowledge of how the role of Big Five personality characteristics in mediating financial literacy and investment decisions within Sri Lanka's distinct cultural environment is yet underexplored. Prior research has predominantly examined personality traits as direct predictors or moderators rather than as mediating mechanisms between financial literacy and investment behaviour. Studies such as Bianchi et al. (2024) surveyed thousands of affluent investors to examine the relationship between personalities and investment decisions, finding that Big Five traits correlate with investors' beliefs about the stock market and risk preferences. However, but this was a direct-effects study, not a mediation design. Considering the possibility of practice differences among undergraduates, this research gap based on population offers a unique path for investigation.

On this line, previous research mostly focused on other investors and households other than undergraduates. They left the specific context of the role of financial literacy towards a better investment decision for undergraduates is still relatively unexplored. Further, the undergraduates' personality traits are unique and different from those of full-time investors, and this empirical knowledge deficit is crucial. This encourages the researchers to carry out the present study, "Examining the Impact of Financial Literacy on Investment Decisions: A Study on the Mediating Role of Big-Five Personality Traits". Considering this, the following was the research objective outlined for this study:

- To explore the impact of financial literacy on investment decisions while Big Five Personality Traits act as a mediator.

### **3. LITERATURE SURVEY**

This study shows that financial literacy and personality traits are closely related and essential for making informed investing decisions. It assesses pertinent studies on the connection between investment conduct and personality traits to support this assertion.

#### **3.1. Financial Literacy and Investment Decision**

Low-cost fund investments and financial literacy were found to be positively correlated by Müller and Weber (2010). It was found that stronger financial literacy is associated with a greater willingness to invest in surveyed Dutch families (Van Rooij et al., 2011). As Lusardi & Mitchell (2007) have found, the level of financial literacy possessed by an individual has a substantial impact on their inclination to adjust their investment portfolio. As Dhar and Zhu (2006) report, literate investors are less affected by the nature effect than those who are less literate. Sivaramakrishnan et al. (2017) explored the association between stock market investing decisions and financial literacy. Their results suggest that intentions to invest in the stock market are positively impacted by financial literacy; further, it suggested that financial well-being positively influences investor behaviour. The hypothesis can be elaborated in the following ways based on the discussion above:

H1: Financial literacy has a significant impact on investment decisions

#### **3.2. Financial Literacy and Big Five Personality Traits**

Hamza & Arif (2019) found that financial literacy has substantial and positive impacts on agreeableness, extraversion, and openness. However, financial literacy negatively impacts neuroticism. In contrast, financial literacy has no significant impact on conscientiousness. On

the other hand, according to Shanmugam et al. (2023), financial literacy was significantly and favorably impacted by the Big Five personality traits.

H2: Financial literacy has a significant impact on the personality traits

### **3.3. Big Five Personality Traits and Investment Decisions**

Mayfield et al. (2008) found that openness to experience increases long-term investment goals. Rizvi and Fatima (2015) discovered that conscientiousness, openness, neuroticism, and agreeableness substantially impact stock market investing. Extraversion and disposition effect are strongly connected among Australian investors (Durand et al., 2008). Nga and Yien (2013) polled Malaysian undergraduates to determine how Generation Y's personality and demographics affect financial choices. Their results showed that conscientiousness affects risk aversion, whereas cognitive bias sensitivity and agreeableness affect socially responsible investment choices. Except for neuroticism, Sarwar et al. (2020) found that other personality traits positively and substantially affect investment. According to Hamza & Arif (2019), neuroticism and openness adversely influence investing choices, whereas agreeableness positively affects them. Conversely, extraversion and conscientiousness somewhat affect investing decisions. Sadiq & Khan (2019) found that agreeableness, extraversion, and conscientiousness positively affect short-term and long-term investment intention. Drawing from the preceding discourse, the hypothesis can be derived as follows;

H3: Big Five personality traits have a significant impact on investment decisions

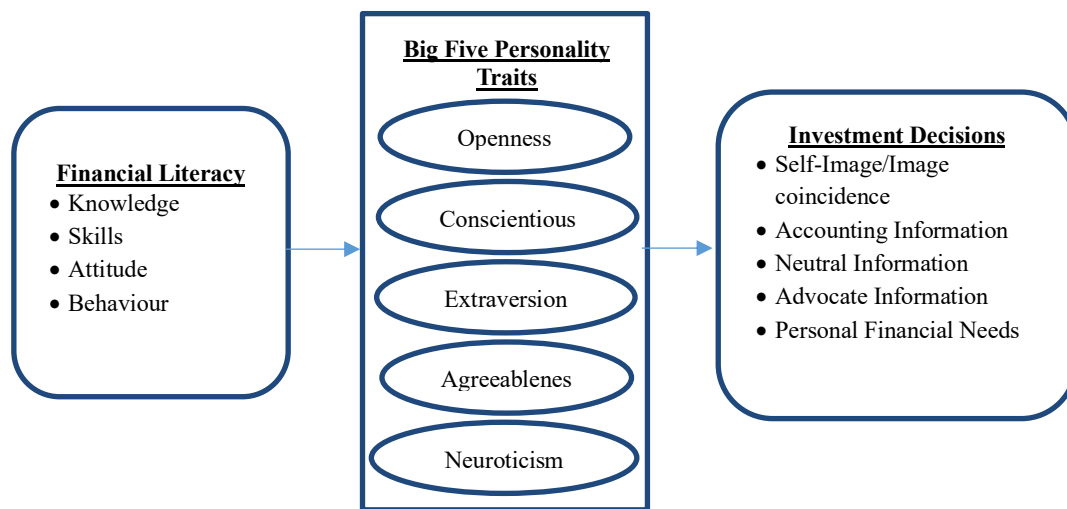
### **3.4. The mediating role of Big Five personality traits between Financial Literacy and Investment Decision**

Hamza and Arif (2019) used the Big Five Personality Traits Model to study how financial knowledge affects investment decisions. The findings demonstrated that financial literacy and Big Five personality traits impact sensible investing choices. Neuroticism and openness moderated the relationship between financial literacy and investment decisions, but not

agreeableness, conscientiousness, or extraversion. Mendoza et al. (2023) explored how financial knowledge and the Big Five personality characteristics affect Metro Manila higher education investors' risk tolerance. The research found that Big Five Personality Traits and financial expertise boost investors' rational decision-making.

H<sub>4</sub>: There is an influence of financial literacy on investment decisions through the Big Five personality traits

### 3.5. Conceptual Framework



**Figure 3.1: Conceptual Framework**  
 Source: Hamza & Arif (2019)

## 4. MATERIALS AND METHODS

### 4.1. Questionnaire Design

This study used three scales from the literature to measure financial literacy, Big Five personality traits, and investment decisions in the questionnaire. Financial literacy includes 20 items as the independent variable (Bongomin et al., 2018), a 25-item measure of big five personality traits as the mediating variable (John & Srivastava, 1999), and 26 items as the dependent variable for investment decisions. This study used Hamza and Arif's (2019) survey instrument, modified for its context. Topics on the questionnaire were rated on a five-point

Likert scale. Hamza and Arif’s (2019) questionnaire was adopted and factor loading analysis proved construct validity and reliability above 0.6.

**4.2. Population and Sample**

A sampling frame of management undergraduates of a state university was selected for the study, encompassing all academic years. An online platform was used, and 147 responses were received from the determined sample of 222 from the Morgan table, with a response rate of 66%. The sample was collected by using a stratified random sampling method, whereby the population was divided into strata based on academic year, and samples were randomly selected from each stratum. The sample calculation and received responses are shown in Table 4.1.

**Table 4.1 Sampling framework**

<b>Academic year</b>	<b>Population</b>	<b>Sample</b>	<b>Received Responses</b>
First year	143	61	40
Second year	151	64	38
Third year	121	52	37
Final year	105	45	32
Total	520	222	147

*Source: Survey Data (2026)*

**4.3. Data Analysis**

This study employed multiple regression analysis to examine the relationships among the study variables in alignment with the research objectives. To investigate the mediating role of Big Five personality traits in the relationship between financial literacy and investment decision-making, step by step mediation procedure proposed by Baron and Kenny (1986) was adopted. This procedure examines mediation sequentially: Step 1 establishes that financial literacy has

a significant effect on investment decision-making (total effect); Step 2 establishes that financial literacy has a significant effect on the mediator, Big Five personality traits; Step 3 establishes that the mediator has a significant effect on investment decision-making while controlling for financial literacy; and Step 4 assesses whether the direct effect of financial literacy on investment decision-making is reduced when the mediator is introduced. A significant reduction in the direct effect with the mediator present indicates partial mediation, while the complete disappearance of the direct effect indicates full mediation (Baron & Kenny, 1986).

For the purpose of mediation analysis, the five dimensions of the Big Five personality model (such as Conscientiousness, Extraversion, Openness to Experience, Agreeableness, and Neuroticism) were aggregated into a single composite score. This operationalisation is grounded in the General Factor of Personality (GFP) framework advanced by Musek (2007), which posits that a broad higher-order personality factor captures an individual's overall adaptive and socially functional dispositional tendency. Although the Big Five dimensions are conceptually distinct, personality psychology recognises that in applied behavioural contexts, these traits collectively reflect a unified psychological orientation rather than independent mechanisms (Rushton & Irwing, 2011). In the context of financial decision-making, this aggregate disposition — rather than any isolated trait — represents the holistic psychological readiness of an investor to process financial information and translate it into investment behaviour. Consistent with this theoretical position, and drawing on the precedent established in behavioural finance research where overall personality profiles have been used to explain investor behaviour (Pompian, 2012; Mayfield et al., 2008), this study treats the Big Five composite as a unitary mediating mechanism. It is acknowledged, however, that this approach does not capture differential mediation effects of individual traits; future research employing

parallel mediation designs with separate trait pathways would provide more granular evidence of trait-specific effects.

## **5. FINDINGS AND RESULTS**

### **5.1. Reliability Analysis and Validity Test**

The Cronbach's Alpha coefficient assessed the study's internal consistency. The threshold is 0.6 and the range is 0 to 1 (Godard et al., 2001). This coefficient for the Big Five personality traits, investment choices, and financial literacy are shown in the reliability test. Confirmatory factor analysis assessed the measuring scales' convergent validity. Items' standardised factor loadings ranged from 0.5 to 0.841, indicating validity. Validity coefficients are factor loadings greater than 0.5 that indicate how well observed variables measure the underlying concept (Bollen, 1989). Table 5.1 details each item's standardised factor loading and dependability.

**Table 5.1 Reliability analysis and validity test**

<b>Variables</b>	<b>No. of items</b>	<b>Cronbach's Alpha</b>	<b>Factor Loading</b>
Financial literacy	20	0.930	-
Knowledge	5	0.825	0.525
			0.579
			0.683
			0.560
			0.651
Skills	5	0.856	0.614
			0.530
			0.663
			0.679
			0.588

Attitudes	5	0.787	0.688
			0.730
			0.659
			0.793
			0.772
Behaviours	5	0.718	0.545
			0.607
			0.746
			0.688
			0.668
Personality Traits	25	0.922	
Conscientiousness	5	0.828	0.511
			0.715
			0.732
			0.694
			0.623
Extraversion	5	0.841	0.704
			0.733
			0.666
			0.584
			0.695
Openness to Experience	5	0.829	0.725
			0.640
			0.669

			0.693
			0.734
Agreeableness	5	0.804	0.824
			0.743
			0.827
			0.841
			0.766
Neuroticism	5	0.887	0.510
			0.543
			0.500
			0.589
			0.648
Investment Decisions	26	0.953	
Self-image/firm image coincidence	6	0.827	0.561
			0.597
			0.574
			0.620
			0.579
			0.558
Accounting information	5	0.856	0.682
			0.632
			0.707
			0.563
			0.607

Neutral information	5	0.832	0.519
			0.753
			0.703
			0.659
			0.688
Advocate information	5	0.843	0.586
			0.609
			0.537
			0.619
			0.766
Personal financial needs	5	0.831	0.726
			0.735
			0.746
			0.504
			0.511

Source: Survey Data (2026)

## 5.2. The interpretation of the mediation effect

The mediation role of Big Five Personality Traits between Financial Literacy and Investment Decisions was analyzed through four steps.

### 5.2.1. Step 1: The relationship between financial literacy and investment decisions

With an R-square value of 0.329 and a significant coefficient ( $\beta = 0.517$ ,  $p < 0.05$ ), the model demonstrates significance, as shown in Tables 4 and 5. Additionally, there is a relationship between financial literacy and investment decisions. Therefore, hypothesis 1 is supported.

**Table 5.2 Model summary of the impact of financial literacy on investment decisions**

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	0.574 <sup>a</sup>	0.329	0.325	0.43804

c. Predictors: (Constant), financial literacy

Source: Survey Data (2026)

**Table 5.3 Coefficients of the impact of financial literacy on investment decisions**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.786	0.219		8.164	0.000
	Financial Literacy	0.517	0.061	0.574	8.441	0.000

c. Dependent Variable: Investment Decisions

Source: Survey Data (2026)

**5.2.2. Step 2: The relationship between financial literacy and big five personality traits**

The model demonstrates significance with an R-square value of 0.667 and a significant coefficient ( $\beta=0.588, p < 0.05$ ), as shown in Tables 5 and 6. Additionally, there is a relationship between financial literacy and the Big Five personality traits. Thus, hypothesis 2 is supported by the findings.

**Table 5.4 Model summary of the impact of financial literacy on big five personality traits**

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	0.667 <sup>a</sup>	0.445	0.442	0.38929

a. Predictors: (Constant), Financial Literacy

b. Dependent Variable: Big Five Personality Traits

*Source: Survey Data (2026)*

**Table 5.5 Coefficients of the impact of financial literacy on big five personality traits**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.576	0.194		8.108	0.000
	Financial Literacy	0.588	0.054	0.667	10.793	0.000

c. Dependent Variable: Big Five Personality Traits

*Source: Survey Data (2026)*

**5.2.3. Step 3: Measurement of the relationship between the big five personality traits and investment decisions.**

The model attains statistical significance, as indicated by an R-square value of 0.339 and a significant coefficient ( $\beta=0.596$ ,  $p < 0.05$ ), as shown in Tables 7 and 8. Furthermore, a relationship between personality traits and investment decisions is observed. Thus, hypothesis 3 is supported by this result.

**Table 5.6 Model summary of the impact of the big five personality traits on investment decisions**

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	0.582 <sup>a</sup>	0.339	0.334	0.43500

a. Predictors: (Constant), Big Five Personality Traits

b. Dependent Variable: Investment Decisions.

Source: Survey Data (2026)

**Table 5.7 Coefficients of the impact of the big five personality traits on investment decisions**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.436	0.254		5.642	0.000
	Big Five Personality Traits	0.596	0.069	0.582	8.619	0.000

c. Dependent Variable: Investment Decisions

Source: Survey Data (2026)

**5.2.4 Step 4: The mediating effect of big-five personality traits in the relationship between financial literacy and investment decisions**

According to Tables 5.8 and 5.9, it is evident that the overall model is statistically significant, with a p-value of the F-statistic being less than 0.05. Additionally, the unstandardized regression coefficient (B) for Big Five Personality Traits is found to be significant (B = 0.367, P < 0.05). Moreover, upon comparing this coefficient with the B value of 0.517 from regression

model 1, it is observed that the B value of Financial Literacy in regression model 2 has decreased to 0.301, which remains statistically significant. Consequently, all requisite conditions for a mediated relationship are met, affirming the support for hypothesis 4.

**Table 5.8 Model summary of the mediating role of big five personality traits on financial literacy and investment decisions**

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	0.574 <sup>a</sup>	0.329	0.325	0.43804
2	0.633 <sup>b</sup>	0.401	0.393	0.41552

a. Predictors: (Constant), Financial Literacy

b. Predictors: (Constant), Financial Literacy, Big Five Personality Traits

c. Dependent Variable: Investment Decisions.

*Source: Survey Data (2026)*

**Table 5.9 Coefficients of mediating role of big five personality traits on financial literacy and investment decisions**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.786	0.219		8.164	0.000
	Financial Literacy	0.517	0.061	0.574	8.441	0.000

2	(Constant)	1.207	0.250		4.826	0.000
	Financial Literacy	0.301	0.078	0.335	3.863	0.000
	Big Five Personality Traits	0.367	0.089	0.359	4.141	0.000

a. Dependent Variable: Investment Decisions

Source: Survey Data (2026)

## 6. DISCUSSION AND CONCLUSION

The purpose of this study is to examine the connection between financial literacy, the Big Five personality traits, and investing decisions made by management undergraduates of a Sri Lankan state university. The result of the reliability analysis indicates that all three research variables demonstrated high consistency with Cronbach's Alpha coefficients ranging from 0.718 to 0.953. The findings from regression analysis showed that 63.3% of the investment decisions were exiting due to the combination of financial literacy and big five personality traits among undergraduates, and 40.1% of the variability in investment decisions is explained by variability in financial literacy and big five personality traits. Since the B value of financial literacy is still significant, it can be concluded that the big five personality traits have a mediating role in the relationship and impact between financial literacy and investment decisions. However, it is not acting as a perfect mediator. That means big-five personality traits partially mediate the relationship and impact between financial literacy and investment decisions. This finding was supported by Hamza & Arif (2019), who suggested that financial literacy and the big five personality traits help investors in making rational investment decisions. In conclusion, undergraduates must recognize and address the mediating function of the Big Five personality traits, as they play a crucial role in promoting investment decisions. Understanding how personality traits influence financial behaviour can lead to more effective educational interventions and tailored approaches to increase financial literacy among students. By acknowledging and incorporating the influence of personality traits in financial education

programs, educators and policymakers can better equip undergraduates with the necessary skills and knowledge to make informed financial decisions and achieve financial well-being in the long term.

## **7. FUTURE RESEARCH AND IMPLICATIONS**

Future research could examine the investment behaviour of diverse investors across the country, taking into account cultural differences and investment options. The current research sample has only 147 management undergraduates; increasing the sample size and considering other streams of undergraduates could strengthen the findings. Adolescents of different demographics may be studied to understand their investment patterns. It could include retirees to reveal their investment habits. Such research could assist financial planners in tailoring investment options to Sri Lankan investors. Financial literacy training improves the financial literacy of investors, employees, and policymakers. Many companies are launching such initiatives to teach managers advanced finance. Some firms offer personalised financial advice based on investor profiles and risk tolerance. The findings emphasise the need for policymakers and managers to profile investors by personality. This strategy attracts new investors and boosts financial investments. Future research may examine the cross-country effects of financial literacy on investment decisions, risk-adjusted performance, and portfolio performance.

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**THE INFLUENCE OF GRIEVANCE HANDLING SYSTEMS ON  
UNDERGRADUATE SATISFACTION IN SELECTED SRI LANKAN  
UNIVERSITIES: THE MODERATING ROLE OF GENDER**

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**ABSTRACT**

This study examines the influence of grievance handling systems on undergraduate satisfaction in selected Sri Lankan universities, with gender as a moderating variable. It emphasizes on how undergraduates perceive the grievance handling system in universities and also fills a gap in the existing body of empirical research on grievance mechanisms in higher education in Sri Lanka. The objectives of the research are to examine the extent to which grievance handling systems impact student satisfaction and to determine whether gender plays a moderating role in the relationship between grievance handling systems and student satisfaction. The research focuses on third-year undergraduates from five state universities: the University of Colombo, Sri Jayewardenepura, Kelaniya, Sabaragamuwa, and Ruhuna. A quantitative cross sectional

design was used, and data were collected from 377 respondents using a structured questionnaire through convenience sampling. The questionnaire evaluated important dimensions such as timeliness, procedural fairness, structural clarity, supervisor responsiveness, and follow-up & feedback mechanisms, along with their effects on student satisfaction. The data were analyzed using descriptive, correlation, multiple regression, and PROCESS Macro analysis. The results show that grievance handling systems and student satisfaction have a positive correlation, and grievance handling systems explain 52.1% of the variance in student satisfaction ( $R^2 = 0.521$ ), while gender moderated the relationship between grievance handling systems and student satisfaction. Further, timeliness and structural clarity were found to be insignificant, whereas female students showed a more positive response to effective grievance handling systems than male students.

**Keywords:** Grievances handling systems, Students' satisfaction, Gender.

## **1. INTRODUCTION**

The Grievances Handling System (GHS) in the education sector has both formal and informal channels where students get to give out concerns, report mistreatment or complain about issues, including the nature of the course they are taking as well as verbal or physical harassment (Gedye et al., 2019). Grievances handling was initially conceptualized in labor and organizational contexts and currently evolved in the educational sector, particularly in higher educational institutes, broadly focusing toward equity, students' voices, mental health and corporate accountability. In both global and locally, studies have reported importance of students' satisfaction as a key performance indicator for universities and higher educational institutions. When institutions ensure equitable, timely and transparent handling of grievances, they foster a positive academic environment that encourages students' engagement as well as reduces the intention to leave. In contrast, poor or inaccessible grievances handling system can

also lead to frustrations, stress and physical hazards (Adikaram & Pupasiri, 2008). In a broader aspect, having an effective grievance handling system in universities contribute to the development of national human resource capital (Agede, 2023). The importance of students' grievances handling in Sri Lanka is an emerging topic during the recent decade. As an example, the University Grant Commission (UGC) in Sri Lanka has come up with a number of policy initiatives initiating an online complaint gateway addressing redress issues like ragging, harassment and gender-based violations. These initiatives accommodate students to report confidentially, with institutional follow ups coordinated by assigned officials (UGC, 2025).

An additional variable that further complicates grievance experiences is gender. While most grievance systems in Sri Lanka are gender neutral in structure, growing evidence suggests that grievance perceptions and usage are not gender neutral in practice. The influence of gender on perceptions of fairness and grievance mechanisms is also evident in organizational settings. While analyzing gender, Monish and Dhanabhakym (2022) investigated the role of grievance management strategies in achieving workplace justice among IT sector employees. Further, this study indicated that there was no significant impact of gender on satisfaction with grievance handling. This implies that, within this context, there was no difference in how male and female employees perceived grievance mechanisms (Monish & Dhanabhakym, 2022). Despite these findings, gender has rarely been studied as a moderating variable in the relationship between grievance handling and satisfaction. Therefore, this research aims to examine the influence of grievance handling systems on undergraduate satisfaction in selected universities, with special emphasis on gender.

## **2. LITERATURE SURVEY**

In the educational context, a grievance broadly describes any form of dissatisfaction related to any aspect of a student's experience with the institution (TEQSA, 2019). A grievance is a

complaint made by a student regarding any area of concern related to their studies at the university. This may arise due to problems in enrolment, academics, administration, personal information handling, university facilities, unfair treatment, discrimination, or violations of university policies. Complaints about assessments are addressed through separate examination regulations (CQA, 2023).

A grievance is a perceived or actual cause of complaint, appeal, dissatisfaction, disagreement, or dispute brought forward by a student in which the student seeks resolution. Such complaints should be directly connected to the student's experience or wellbeing within the university, either generally or academically (Redressal Policy, 2022). Literature presents a broader and more inclusive perspective. Prajapat et al. (2018) define a grievance as a formal complaint regarding perceived wrongdoing or unfairness, whereas Rachitha (2019) argues that a grievance may be based on individual perceptions of injustice related to personal job experiences. These perspectives reflect the psychological aspects and subjectivity of grievances. Opatha (2019) highlights that most grievances are expressions of dissatisfaction between employees and their direct supervisors, and these grievances tend to be job related and focused on issues of unfair treatment in the workplace.

According to Aktar and Alam (2021), the quantitative research tested five grievance handling dimensions: timeliness, procedural fairness, structural clarity, supervisor responsiveness, and follow up & feedback mechanisms. Looking at each factor separately, timeliness in grievance handling refers to both the speed and delay involved in resolving complaints. A prompt early response is crucial, as it ensures the timely management of employee concerns (Nurse & Devonish, 2007). Timely decision-making also enhances perceptions of justice and minimizes damages caused by delays (Olson-Buchanan & Boswell, 2008). Time constraints and strict compliance are essential to prevent delays in the process and to increase the speed of resolution (Adikaram & Rupasiri, 2008).

Procedural fairness in grievance management means that decisions made are perceived as fair (Alexander et al., 1995), outcomes are accepted even when they are unfavorable (Nurse & Devonish, 2007), and there is a way up the ladder so that unresolved issues can be escalated (Cruz, 1999). The ability to clearly define the grievance process, including its levels and simplicity, is known as structural clarity. A simple, step-by-step procedure helps employees understand whom to approach and how to proceed (Cruz, 1999). Supervisor responsiveness, especially staff attentiveness and sincerity in problem solving, is also important. A relatively strong and consistent inverse relationship has been found between supervisory capabilities and grievances. Employees report fewer complaints when supervisors demonstrate competence and openness to informal resolution (Bacharach & Bamberger, 2004). The last factor, follow-up and feedback mechanisms, is vital to ensuring the effectiveness of grievance handling. Organizations should regularly review the grievance procedure, implement decisions made, and monitor issue recurrence to introduce necessary improvements (Aktar & Alam, 2021).

Further, consideration of the key dimensions emerged as critical in influencing students' satisfaction, such as ethical consideration and the progress of the grievance handling system. Ethical consideration involves the fairness, confidentiality, and non-discriminatory aspects of grievance procedures. The study by Sivapathasundharam and Thampoe (2022) found that most respondents viewed grievance handling as unequal, based on caste, education level, or managers' discretion. It was also reported that information was not properly collected from complainants before hearings, and decisions were often made without consulting the victims. These ethical deficiencies led to dissatisfaction because employees believed that they were disrespected and excluded from the resolution process (Sivapathasundharam & Thampoe, 2022). The next factor, the progress of the grievance handling system dimension, depicts the timeliness, transparency, and follow-through in grievance resolution. Based on the study, participants reported that complaints were unnecessarily delayed and that procedures were

neither clearly understood nor simple to follow. Although formal policies existed, enforcement was weak, which further undermined satisfaction. Employee satisfaction has a moderate positive relationship with the grievance management system (Sivapathasundharam & Thampoe, 2022)

Looking into past research related to the relationship between grievance handling systems and satisfaction, Idris et al. (2023) examined how universities manage student complaints and the effectiveness of current complaint handling strategies in influencing student satisfaction and loyalty. The study, conducted among 328 students at an Indonesian university, investigated three dimensions of complaint handling: interactional justice, procedural justice, and distributive justice. The results showed that all three types of justice had significant effects on student satisfaction.

Geetika et al. (2014), in their study, assessed worker satisfaction with the grievance-handling procedure in a major power distribution company in India. The study concluded that an effective, speedy, and supportive grievance-handling process significantly improves worker satisfaction and industrial relations within the organization. In higher education contexts, Tripathi et al. (2021) reported that transparency, traceability, and user-friendliness of online grievance redress platforms strongly influenced student satisfaction in Indian universities, emphasizing the importance of accessible and accountable grievance systems.

### **3. PROBLEM STATEMENT**

There has been a gradual institutionalization of grievance handling mechanisms in Sri Lankan universities over the years, there is a dearth of studies examining their effects on students' satisfaction levels. The UGC has launched national level reforms, including a complaint portal, policies regulating ragging and harassment, and grievance mechanisms at the institutional level

(UGC, 2025). Past research indicates that, despite the existence of formal grievance policies, many students perceive grievance mechanisms as ineffective due to limited awareness, accessibility barriers, and concerns regarding fairness and confidentiality, and delays in resolution. These issues contribute to reduced confidence in institutional complaint handling processes (Javed & Chitrali, 2025). Consequently, although grievance systems are formally established, they may not effectively ensure accessibility or foster trust among students. In addition, many students remain unaware of available grievance mechanisms, and even those who are aware often hesitate to use them due to fear of potential repercussions. Therefore, this study seeks to examine the impact of grievance handling systems on the satisfaction of undergraduate students in Sri Lankan universities.

Regardless of this policy emphasis, there is a noticeable lack of empirical research evaluating how grievance handling systems influence students' satisfaction with their university experience. Previous research conducted on undergraduate satisfaction in Sri Lanka has encompassed factors such as academic features, service quality, physical infrastructure, and employability (Weerasinghe & Fernando, 2018; Weerasooriya & Kappagoda, 2023). However, the grievance redress process, which directly relates to students' emotional safety, trust in institutional procedures, and perceptions of fairness, and have received little attention in satisfaction research. Furthermore, literature demonstrates that grievance procedures affect students not only through outcomes but also through their perceptions of fairness, respect, and voice, which are core concepts of Procedural Justice Theory (Tyler, 2021). While Procedural Justice Theory strongly emphasizes subjective notions of fairness, Contingency Theory introduces the structural and situational aspects of grievance handling, suggesting that the effectiveness of organizational systems depends on the alignment between internal and external variables (Lawrence & Lorsch, 1967; Jayathilaka, 2017). Another variable that remains under researched is the role of gender in grievance handling.

Therefore, there is a need for research to empirically test how grievance handling systems influence students' satisfaction in Sri Lankan universities. Moreover, Procedural Justice Theory and Contingency Theory can enhance contextual knowledge of how grievance systems operate as internal mechanisms within the university governance system. It is also vital to examine gender as a moderating variable, as male and female students may differ in the way they perceive, access, and react to grievance procedures.

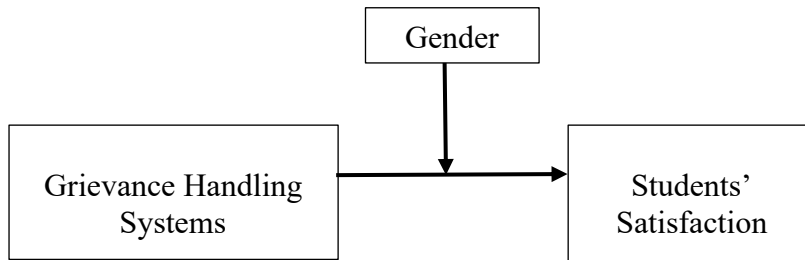
By addressing these interrelated gaps, this study aims to offer practical suggestions to improve the equity, effectiveness, and student centeredness of grievance handling systems in Sri Lankan higher education. The research objectives are to identify the factors that influence grievance handling systems and student satisfaction, to examine the relationship between grievance handling systems and student satisfaction, to determine the extent to which grievance handling systems impact student satisfaction, and to examine whether gender plays a moderating role in the relationship between grievance handling systems and student satisfaction.

## **4. MATERIALS AND METHODS**

### **4.1. Research Design**

A Research design is the general plan and approach to the study that helps to combine various elements of research in a consistent and rational manner so that the research issue could be solved.

The conceptual framework developed for this study serves as a foundation for empirical testing, enabling a deeper understanding of how the institutional grievance handling system impacts students' satisfaction and how such outcomes may differ across gender lines.



**Figure 4.1 Conceptual framework**

*Source: Develop by authors*

**4.1.1. Operationalization**

Operationalization is the process of defining theoretical concepts in forms that can be measured and tested in reality.

**Table 4.1 Operationalization**

Variable	Dimension	Indicator
Grievance Handling System (GHS)	Timeliness	Time taken to give a decision
		Promptness in addressing issues
	Procedural Fairness	Fairness of decision
		Availability of appeals
		Acceptability of outcome
	Structural Clarity	Number of levels in the procedure
		Simplicity of the Process
	Supervisor	Staff attentiveness
	Responsiveness	Sincerity in problem-solving
	Follow up & Feedback	Implementation of grievance decision
Mechanism	Monitoring of issue recurrence	
	Ethical Consideration	Confidential handling of grievances

Students' Satisfaction (SS)		Equal treatment regardless of background
		Respectful and non-biased grievance hearings
	Progress of GHS	Ability to track grievance status
		Clear and simple grievance procedure
		Consistent follow-up actions

Source: Literature review

#### 4.2. Population and Sample

The target group of this study comprises third year undergraduate students in selected universities in Sri Lanka during the period of 2025. According to the latest data, there are 17 public universities in Sri Lanka under the University Grants Commission (UGC), providing a variety of academic programs to students. The University of Colombo, University of Sri Jaywardenepura, University of Kelaniya, Sabaragamuwa University of Sri Lanka, and University of Ruhuna were selected as representative samples for this research. Among the five universities, 377 samples were selected using the convenience sampling method. The sample consisted of 193 females (51.2%) and 184 males (48.8%), which were almost equal in number.

#### 4.3. Hypotheses Development

H<sub>1</sub>: There is a significant relationship between grievance handling system and undergraduate satisfaction.

The research findings indicate that the grievance handling system within organizations should be very strong to increase the morale and satisfaction of employees (Naagar & Saxena, 2023).

The study by Janathanan (2024) pointed out that a good grievance resolution process develops trust and emotional attachment among students. It also leads to satisfaction.

H<sub>2</sub>: Gender plays the moderating role between grievances handling system and undergraduate satisfaction.

The role of gender in perceptions of fairness and grievance systems is also reflected in organizations. An analysis of gender revealed that grievance management strategies play a crucial role in achieving workplace justice among IT sector employees. In this study, the authors indicated that the level of satisfaction with grievance handling did not significantly differ according to gender (Monish & Dhanabhakya, 2022).

#### 4.4. Data Analysis

The analysis of the data collected through the structured questionnaire in this study was measured using a five-point Likert scale. Furthermore, the analysis methods include descriptive analysis, correlation, regression, and PROCESS Macro.

### 5. FINDINGS AND RESULTS

This section explores the findings based on the results of the analysis methods.

#### 5.1. Descriptive Analysis

**Table 5.1 Descriptive statistics of variables**

<b>Variable</b>	<b>Mean</b>	<b>Std. Deviation</b>
GHS	3.3498	.56282
SS	3.4178	.55539

*Source: Survey data*

According to the descriptive statistics, the mean scores for the Grievance Handling System (GHS) and Student Satisfaction (SS) are relatively similar, with means of 3.3498 and 3.4178, respectively.

## 5.2. Reliability

**Table 5.2 Reliability analysis**

Variable	Number of Items	Cronbach's Alpha Value
GHS	22	0.973
SS	12	0.962

*Source: Survey data*

According to the threshold level, the reliability is acceptable.

## 5.3. Correlation Analysis

**Table 5.3 Correlation**

Variables	Correlations (SS)
Timeliness (TL)	.523**
Procedural fairness (PF)	.679**
Structural clarity (SC)	.578**
Supervisor responsiveness (SR)	.697**
Follow up & feedback mechanism (FFM)	.696**

*Source: Survey data*

Based on the above data, the grievance handling system is correlated with student satisfaction.

## 5.4. Regression Analysis

**Table 5.4 Model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726 <sup>a</sup>	.527	.521	.38449

- a. Predictors: (Constant), FFM, TL, SC, PF, SR  
 b. Dependent Variable: SS

*Source: Survey data*

The model summary shows that the influence of the dimensions of the grievance handling system on student satisfaction was determined using a multiple regression model. This model yielded an  $R^2 = 0.527$  and an adjusted  $R^2 = 0.521$ . This means that the grievance handling system can explain about 52.1% of the variation in student satisfaction. This indicates a good fit of the model.

### 5.5. Coefficient

**Table 5.5 Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.045	.124		8.417	.000
	TL	-.068	.048	-.082	-1.433	.153
	PF	.179	.093	.177	1.922	.055
	SC	.113	.084	.124	1.349	.178
	SR	.232	.088	.248	2.633	.009
	FFM	.245	.074	.277	3.329	.001

*Source: Survey data*

The strongest predictors of satisfaction were supervisor responsiveness and follow up mechanisms, with standardized beta values of 0.248 and 0.277, respectively, and both were statistically significant at a p-value of 0.01. The impact of procedural fairness was marginally significant ( $\beta = 0.177$ ,  $p = 0.055$ ). Timeliness and structural clarity were not significant.

## 5.6. PROCESS Macro Regression Model

**Table 5.6 Model summary**

<b>R</b>	<b>R<sup>2</sup></b>	<b>MSE</b>	<b>F</b>	<b>df1</b>	<b>df2</b>	<b>P</b>
0.7127	0.5079	0.1530	128.3271	3.0000	373.0000	0.0000

*Source: Survey data*

The model summary showed  $R = 0.7127$  and  $R^2 = 0.5079$ , whereby grievance handling and gender contributed no less than 50.8% of the variance in student satisfaction. The F-statistic was 128.3271 with  $p < 0.001$ , which indicates that the model was significant and had a good fit.

## 5.7. Conditional Effect Analysis

**Table 5.7 Conditional effects of GHS on student's satisfaction at different levels of gender**

<b>Gender</b>	<b>Effect of GHS</b>	<b>Se</b>	<b>T</b>	<b>P</b>	<b>LLCI</b>	<b>ULCI</b>
0 (Male)	0.5718	0.0597	9.5751	0.0000	0.4544	0.6892
1 (Female)	0.7641	0.0450	16.9806	0.0000	0.6756	0.8526

*Source: Survey data*

Conditional effects analysis was conducted to provide further clarification. The effect of grievance handling on satisfaction was 0.5718 ( $p < 0.001$ ) among males and was stronger at 0.7641 ( $p < 0.001$ ) among females. Overall, the moderating effect of gender in the PROCESS macro regression model was supported. The findings show that grievance handling systems are vital in their ability to affect the satisfaction of both male and female students.

## **6. INTERPRETATION AND DISCUSSION**

In this section, the findings of the research objectives are discussed. Objective one aimed to identify the factors influencing the grievance handling system and student satisfaction in state universities in Sri Lanka. The regression analysis revealed that, out of the five dimensions of grievance handling, supervisor responsiveness ( $\beta = 0.248$ ,  $p = 0.009$ ) and follow up and feedback mechanisms ( $\beta = 0.277$ ,  $p = 0.001$ ) were the strongest predictors of student satisfaction. Procedural fairness also showed a positive but marginally significant effect ( $\beta = 0.177$ ,  $p = 0.055$ ). In contrast, timeliness ( $\beta = -0.082$ ,  $p = 0.153$ ) and structural clarity ( $\beta = 0.124$ ,  $p = 0.178$ ) did not play a significant role in influencing satisfaction. These findings suggest that students value fairness and transparency, but more importantly, they prioritize supervisor responsiveness and the assurance provided through effective feedback and follow up mechanisms. The second objective examined the relationship between the grievance handling system and student satisfaction in state universities in Sri Lanka. Based on the findings, both variables showed a significant correlation. The third objective explored the extent to which the grievance handling system impacts student satisfaction. The regression model summary indicated that grievance handling accounts for 52.1% of the variation in student satisfaction ( $R^2 = 0.521$ ). This suggests a moderately strong influence, emphasizing the importance of effective grievance redress mechanisms in university management.

The final objective examined whether gender plays a moderating role between the grievance handling system and student satisfaction. The PROCESS macro analysis revealed a statistically significant interaction effect. The conditional effects showed that female students were more likely to be satisfied with grievance handling ( $\beta = 0.7641$ ,  $p < 0.001$ ) than male students ( $\beta = 0.5718$ ,  $p < 0.001$ ). These results confirm that gender is a significant moderating factor. Although grievance handling systems benefit both male and female students, the findings imply

that such mechanisms enhance students' perceptions of protection, fairness, and institutional care.

## **7. CONCLUSION**

The findings of this study demonstrate that an effective grievance handling system significantly enhances undergraduate satisfaction. Furthermore, the influence of grievance handling systems is comparatively stronger among female students, highlighting the importance of adopting gender responsive approaches to student support services. In line with best practices observed in leading international universities, Sri Lankan universities consider implementing integrated digital grievance management platforms that enable students to submit, track, and receive updates on complaints in real time. Universities should also conduct regular awareness and orientation programs to improve students' understanding of available grievance procedures and encourage active utilization of these services. Additionally, the establishment of independent grievance review committees, periodic system audits, and transparent reporting mechanisms can strengthen accountability, fairness, and confidentiality throughout the grievance resolution process.

### **7.1. Future Research Directions**

Regarding future research directions, comparative studies between public and private universities would be a valuable area to explore. The governance structures, resources, and institutional cultures differ significantly between the two sectors, and such comparisons may reveal best practices that can be adopted across institutions. Additionally, qualitative methods such as interviews and focus groups should be incorporated in future research to gain deeper insights into students lived experiences.

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**TRANSFORMING GLOBAL FINANCE: A SYSTEMATIC REVIEW OF  
CRYPTOCURRENCIES, CENTRAL BANK DIGITAL CURRENCIES,  
AND DECENTRALIZED FINANCE**

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**ABSTRACT**

The digitization of financial services has fundamentally disrupted global economic paradigms, introducing cryptocurrencies, Central Bank Digital Currencies (CBDCs), and Decentralized Finance (DeFi) as transformative mechanisms. Despite escalating academic interest, the literature remains fragmented across isolated technological and regulatory silos. This paper presents a rigorous systematic and thematic review synthesizing 44 peer reviewed articles to construct a holistic conceptual framework of the digital money ecosystem. We critically analyze the architectural dichotomy between decentralized cryptocurrencies and sovereign CBDCs, evaluating their respective impacts on financial intermediation. The findings reveal that while digital money architectures offer unprecedented opportunities for financial inclusion, ecommerce integration, and smart contract driven efficiencies, they simultaneously pose profound systemic risks to traditional banking infrastructures and monetary policy transmission. By systematically categorizing the socioeconomic implications and identifying critical research

gaps—particularly concerning the environmental sustainability of these architectures—this review provides actionable strategic recommendations for policymakers and traditional financial institutions. Ultimately, this study asserts that digital money represents a fundamental restructuring of financial intermediation, necessitating coordinated global regulatory frameworks to balance innovation with systemic stability.

**Keywords:** CBDC; Cryptocurrencies; Decentralized finance (DeFi); Digital innovation; Financial inclusion; FinTech.

## **1. INTRODUCTION**

The rapid digitization of financial services has precipitated a fundamental paradigm shift, positioning digital money as a highly disruptive force within the global macroeconomic ecosystem. The proliferation of digital currencies—driven by the underlying architecture of distributed ledger technology (DLT) and manifested primarily through decentralized cryptocurrencies—has systematically dismantled traditional, siloed monetary systems (Rella, 2020). Concurrently, the conceptualization and development of Central Bank Digital Currencies (CBDCs) have gained unprecedented traction, compelling sovereign central banks globally to investigate the institutional issuance of digital legal tender (Ozili, 2022b). These dual developments have catalyzed extensive academic and policy debates regarding the myriad opportunities and inherent systemic risks associated with digital money adoption across technological, financial, regulatory, and sociological dimensions.

Digital money embodies an evolutionary trajectory that portends implications far beyond the mechanical execution of transactions. The literature suggests that the integration of digital money ecosystems has the potential to reshape, and in some contexts distort, the nature of financial inclusion, economic development, and foundational consumer behavior paradigms (Amoah, et al, 2021; Islam & Muzi, 2021). Consequently, these digital architectures have

emerged as pivotal drivers of convenience and efficiency in modern payment systems, offering significant time and cost reductions as viable alternatives to traditional banking intermediation (Christophorus & Dodi, 2022). However, the escalating integration of digital currencies into the formal financial landscape has raised profound questions regarding their recognition as legitimate forms of currency, their potential to disintermediate traditional payment infrastructures, and their impact on the stability of aggregate money demand (AntalMolnár, 2022).

Despite the extensive multidisciplinary research attention directed toward digital currencies across economics, finance, technology, and consumer behavior, the literature remains notably fragmented. Previous analyses have frequently isolated specific phenomena—such as the volatility of cryptocurrencies or the technological feasibility of CBDCs—without providing a cohesive, systemic overview of the digital money landscape.

### **1.1. Research Gap and Objectives**

To address this critical gap, this review undertakes a rigorous, systematic, and thematic synthesis of the literature to construct a holistic conceptual understanding of digital money. The primary objective is to evaluate how diverse forms of digital money are reshaping the global financial ecosystem. Specifically, this study is guided by three core research objectives:

- To critically analyze the historical and technological evolution of digital money, contrasting the mechanisms of decentralized cryptocurrencies with sovereign CBDCs.
- To evaluate the transformative impact of digital money applications, particularly concerning ecommerce, the Internet of Things (IoT), and Decentralized Finance (DeFi).
- To systematically assess the socioeconomic implications of digital money adoption, emphasizing financial inclusion, consumer behavior, and the requisite regulatory frameworks necessary for systemic stability.

By systematically synthesizing current knowledge, this review aims to transcend descriptive

summaries, offering a critical analysis that identifies apparent gaps in the literature deserving of future empirical investigation. Ultimately, this review provides a comprehensive architectural overview designed to guide policymakers, financial institutions, and business strategists in navigating the complexities, mitigating the risks, and leveraging the opportunities inherent in the transition toward a digitized global financial ecosystem.

## 2. LITERATURE SURVEY

The transition from traditional fiat currencies to digitized financial assets represents one of the most profound structural shifts in modern economic history. To contextualize this transition, this section critically synthesizes the evolutionary trajectory of digital money and establishes a conceptual framework that delineates the interplay between decentralized digital assets and sovereign financial systems. This conceptual framework is visually represented in Figure 2.2, which illustrates the multi-layered architecture of the digital money ecosystem, from technological catalysts through to regulatory responses.

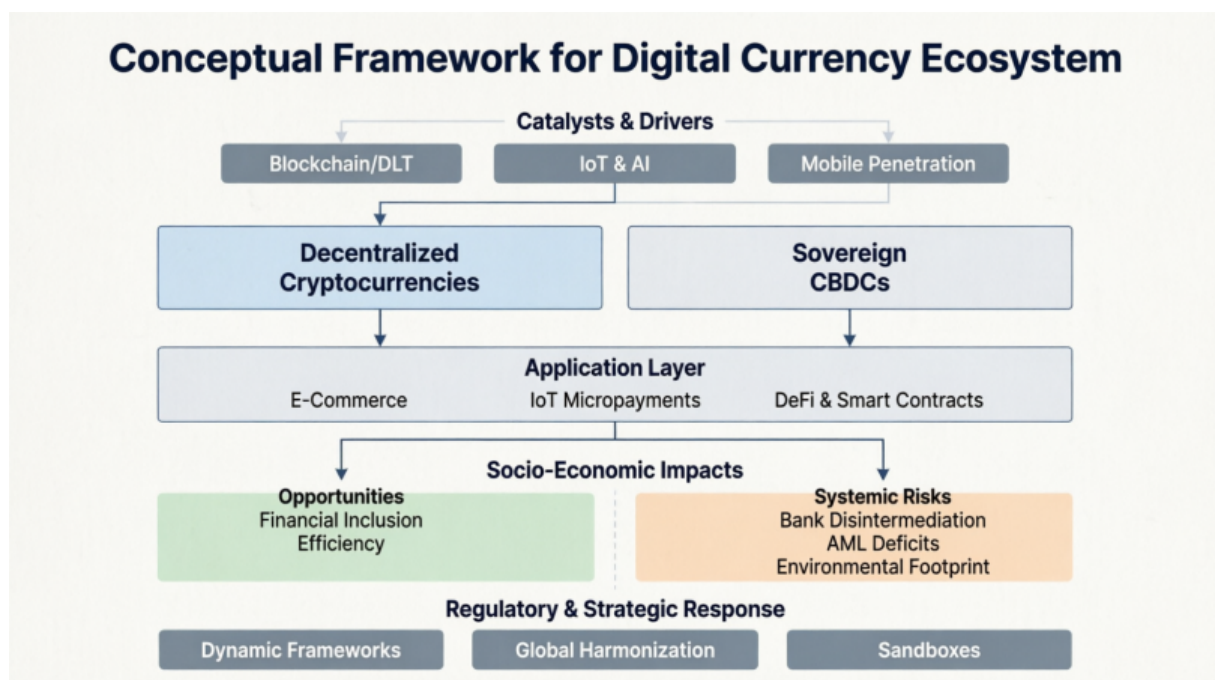


Figure 2.2 Conceptual framework of the digital money ecosystem

Source: Developed by Author

## **2.1. The Evolutionary Trajectory of Digital Money**

The conceptual foundation of digital money is anchored in the pursuit of secure, decentralized, and frictionless transactional mechanisms, fundamentally enabled by advancements in distributed ledger technologies (DLT) and cryptography. The genesis of this evolution is most prominently characterized by the emergence of private cryptocurrencies, such as Bitcoin, which deploy blockchain technology to execute secure, pseudo anonymous transactions without relying on a trusted, centralized third-party intermediary (AntalMolnár et al., 2022; Bartoletti & Carta, 2020). Originally relegated to niche technological circles, cryptocurrencies have increasingly captured significant institutional investment interest and public attention, positioning themselves as highly volatile yet viable alternatives to traditional fiat currencies (Widjaja & Havidz, 2023). By facilitating a transparent, decentralized accounting ledger where peer to peer (P2P) interactions occur unimpeded by traditional intermediaries, cryptocurrencies have compelled the broader financial sector to recognize the immutable and secure transactional capabilities inherent in block chain architecture (Waspada, Salim, & Krisnawati, 2022).

In diametric contrast to the decentralized ethos of private cryptocurrencies, sovereign monetary authorities have vigorously pursued the conceptualization and development of Central Bank Digital Currencies (CBDCs) (Chen & Nesterov, 2023). CBDCs are distinctly architected as digitized manifestations of sovereign fiat currency, issued and comprehensively regulated by central banks. The theoretical proposition underlying CBDCs asserts that they can optimize the efficiency of domestic and cross border payment mechanisms, aggressively foster financial inclusion, and critically enhance the transmission efficacy of macroeconomic monetary policies (Ozili, 2022a, 2022b). While empirical implementation remains nascent—with only a select cohort of central banks advancing to pilot or issuance stages—the pervasive global research directed toward CBDCs unequivocally demonstrates that traditional financial systems are urgently recalibrating to internalize digital money architectures (Barontini & Holden, 2019).

The accelerated adoption of these diverse digital money architectures is not exclusively a product of technological push; it is equally driven by profound demand side socioeconomic pulls. The ubiquitous proliferation of mobile telephony, exponentially expanded internet penetration, and the maturation of secure cryptographic communication protocols have collectively eradicated traditional barriers to entry (Astuti, Rajab, & Setiyouji, 2022; Faturahman, Agarwal, & Lukita, 2021). Furthermore, the integration of adjacent exponential technologies—most notably the Internet of Things (IoT) and artificial intelligence—has engendered highly seamless and autonomous transactional environments (Khanh et al., 2022). Concurrently, exogenous systemic shocks, such as the COVID19 pandemic, acted as massive catalytic accelerants for the digitization of financial services, fundamentally reengineering consumer behavior toward contactless, asynchronous payment modalities (Amoah et al., 2021). Additionally, shifting societal paradigms emphasizing sustainable, ethical, and transparent financial systems have continuously shaped modern consumer attitudes toward adopting innovative digital financial instruments (Kousari, Ghazinoory, & Saghafi, 2021).

## **2.2. Digital Money and the Disintermediation of Financial Services**

The assimilation of digital currencies into the formal financial ecosystem presents a dichotomy of profound developmental potential offset by systemic macroeconomic risks. From an inclusivity paradigm, digital money solutions—specifically mobile money ecosystems and FinTech driven digital payment platforms—have empirically demonstrated positive correlations with enhanced capital accumulation, investment facilitation, and household resilience against exogenous income shocks (Wahyu & Dodi, 2022). Crucially, by drastically lowering transaction costs and circumventing the structural rigidities of traditional banking, digital money significantly democratizes access to financial services for historically unbanked and underserved populations (Islam & Muzi, 2021). Within emerging and developing economies, this widening of formal financial accessibility serves as a potent catalyst for structural economic development

and individual financial empowerment.

Conversely, the pervasive proliferation of digital currencies fundamentally threatens to disintermediate traditional banking architectures and obscure the transmission mechanisms of sovereign monetary policy. The hypothetical mass migration of consumer capital toward privately issued digital currencies, or even sovereign CBDCs, carries severe implications for commercial bank deposit bases, the stability of aggregate money demand, and traditional fractional reserve lending models (Albalawee & Al Fahoum, 2023). Consequently, a paramount challenge confronting contemporary policymakers is reconciling the systemic integration of digital money with the imperative to maintain control over interest rate parity, monetary policy efficacy, and the aggregate money supply (Barrdear & Kumhof, 2022; Yang & Zhou, 2022).

This delicate equilibrium necessitates the implementation of highly robust, dynamic regulatory frameworks capable of assimilating digital innovation without compromising systemic financial integrity. Explicit regulatory perimeters are essential not only to sustainably nurture the FinTech sector but to aggressively mitigate escalating risks associated with illicit capital flows, cybercrime, and money laundering (Khelil et al., 2023). Policymakers are therefore compelled to engineer legal architectures that govern the issuance, circulation, and taxation of digital currencies, striking an optimal balance between fostering technological innovation and safeguarding macroeconomic stability (Nefi & Sardjono, 2021). Furthermore, decentralized architectures inherently exhibit pseudo anonymity, which exacerbates concerns regarding their utilization for illicit financing and the evasion of international economic sanctions (Castrén, Kavonius, & Rancan, 2022). Mitigating these risks fundamentally requires robust antimoney laundering (AML) protocols and unprecedented cross border regulatory cooperation (Reznik et al., 2020).

Ultimately, the digitalization of finance redefines the traditional competitive landscape, positioning agile FinTech startups both as existential competitors and vital collaborative

partners to incumbent financial institutions (Naz et al., 2022). While FinTech innovations exert significant disruptive pressure, forcing traditional entities to rapidly modernize (Liu, 2022), symbiotic partnerships are increasingly emerging as the optimal strategic response. Such collaborations allow FinTech firms to leverage the massive regulatory compliance and capital infrastructure of incumbents, while providing traditional banks with the agility to deploy superior, consumer centric digital services (Haddad & Hornuf, 2021). The trajectory of the global financial system will thus be dictated by how effectively regulatory frameworks can moderate this intricate choreography between disruptive innovation and systemic risk management.

### **3. METHODOLOGY**

To rigorously address the research objectives and mitigate the inherent fragmentation of the current literature, this study employs a systematic, thematic review methodology. This approach was explicitly selected to facilitate a comprehensive, objective, and replicable synthesis of the multidisciplinary research landscape surrounding digital money. The methodological protocol was designed in strict adherence to the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) framework, ensuring methodological transparency and academic rigor throughout the literature identification, screening, and inclusion phases.

#### **3.1. Search Strategy and Information Sources**

A comprehensive and structured electronic literature search was conducted to identify relevant empirical and theoretical studies. To ensure a high threshold of academic quality and multidisciplinary coverage, the search was executed across three premier academic databases: Scopus, Web of Science (WoS) Core Collection, and Google Scholar. The temporal boundary for the search was explicitly constrained to the period between 2015 and 2023. This specific timeframe was selected to capture the seminal proliferation of blockchain technologies, the exponential rise of decentralized finance architectures post2015, and the accelerated digitization catalyzed by the COVID19 pandemic.

The search syntax was constructed using Boolean operators to capture the core dimensions of the research gap. The primary search string utilized across the databases was: ("Digital Money" OR "Cryptocurrency" OR "Central Bank Digital Currency" OR "CBDC" OR "Decentralized Finance" OR "DeFi") AND ("Financial System" OR "FinTech" OR "Financial Inclusion" OR "Monetary Policy").

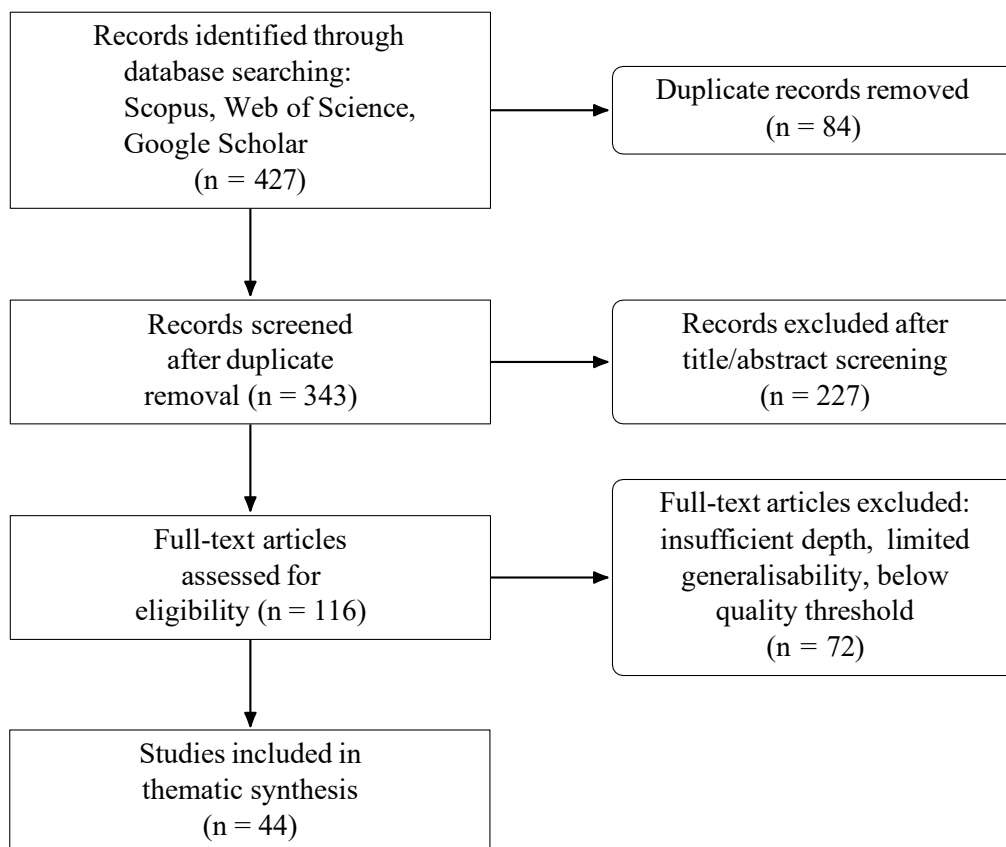
### **3.2. Inclusion and Exclusion Criteria**

To maintain the empirical rigor required for a top tier thematic synthesis, strict eligibility criteria were established. Studies were deemed eligible for inclusion if they met the following criteria: (1) published in peer reviewed academic journals; (2) written in English; (3) explicitly investigated the technological, socioeconomic, or regulatory dimensions of digital currencies; and (4) provided substantial empirical data, rigorous theoretical frameworks, or comprehensive case analyses regarding the impact of digital money on traditional financial architectures. Conversely, the exclusion criteria filtered out: (1) nonpeer reviewed literature, including working papers, predatory journal articles, and unverified industry whitepapers; (2) articles lacking explicit focus on the macroeconomic or systemic financial implications of digital money; and (3) purely technical computer science papers focusing exclusively on cryptographic hashing algorithms without corresponding economic or financial analysis.

### **3.3. Screening Protocol and PRISMA Flow**

The initial execution of the search strategy across the selected databases yielded a preliminary corpus of 427 articles. In the first phase of the PRISMA protocol, all retrieved records were exported to a reference management system, and 84 duplicate records were algorithmically identified and removed, leaving 343 unique articles. During the primary screening phase, the titles and abstracts of the 343 articles were independently reviewed against the predefined inclusion criteria. This phase resulted in the exclusion of 227 articles that were deemed topically irrelevant or outside the specified scope of financial systems integration. In the secondary screening phase, the full texts of the remaining 116 articles were subjected to a rigorous

qualitative assessment. Articles were evaluated based on their methodological soundness, the depth of their theoretical or empirical contributions, and their direct relevance to the formulated research questions. This rigorous full text evaluation resulted in the exclusion of a further 72 articles due to insufficient academic depth, narrow geographical limitations lacking generalizability, or a failure to meet the peer review quality threshold. Ultimately, 44 high-quality, peer reviewed articles successfully met all criteria and were retained for the final systematic thematic synthesis. The complete identification, screening, and inclusion process is summarized in the PRISMA flow diagram presented in Figure 3.1.



**Figure 3.1 PRISMA flow diagram of the literature identification, screening, and inclusion process**

*Source: Developed by Author*

### 3.4. Data Extraction and Thematic Synthesis

The 44 included articles were subsequently subjected to a thematic analysis framework. Data

extraction was performed systematically, charting the authors, publication year, methodology, core financial contexts (e.g., ecommerce, IoT, DeFi), and principal findings. Using an inductive coding approach, the extracted data were synthesized to identify emergent macro themes, contradictions, and critical research gaps. This thematic synthesis serves as the structural foundation for the results and discussion presented in the subsequent sections, ensuring that the findings are robustly rooted in the synthesized empirical literature.

#### **4. RESULTS AND DISCUSSION**

The systematic synthesis of the included literature reveals that digital money extends significantly beyond its primary function as a medium of exchange. The results unequivocally demonstrate that digital currency architectures operate as foundational infrastructural layers enabling complex economic applications. The inductive coding of the 44 included studies converged on three dominant thematic clusters, summarized in Table 4.1, which also records the representative evidence base and the principal tension identified within each cluster. This section delineates the core thematic findings regarding the applied use cases of digital money and critically evaluates their profound societal implications.

**Table 4.1 Thematic synthesis of the reviewed literature: dominant clusters, evidence base, and key tensions**

<b>Thematic Cluster</b>	<b>Synthesized Finding and Key Tension</b>	<b>Representative Studies</b>
Architectural applications (e-commerce, IoT, DeFi)	Digital money functions as programmable infrastructure that lowers transaction friction and enables machine-to-machine micropayments and disintermediated lending; efficiency gains are offset by fraud exposure, smart-contract exploitation, and AML deficits.	Chawla & Kumar (2021); Gaurav & Gupta (2022); Khanh et al. (2022); Khan et al. (2021); Grassi et al. (2022); Bartoletti et al. (2020)
Societal implications and	Mobile money and wallet ecosystems are the most effective mechanisms for closing the financial inclusion gap, yet realized inclusion is	Amoah et al. (2020); Okello Candiya Bongomin et al. (2021); Islam & Muzi

consumer behavior	contingent on trust, digital literacy, and consumer protection, with COVID-19 acting as a structural accelerant.	(2021); Amankwah-Amoah et al. (2021); AlAjmi (2022)
Future prospects: sustainability and foresight	The computational intensity of proof-of-work consensus creates a contradiction between technological efficiency and environmental sustainability, motivating life-cycle assessment and scenario planning tools such as digital twins.	Bag et al. (2021); Mansour et al. (2023); Nasirahmadi & Hensel (2022); Duguma et al. (2022); Ngwakwe (2023)

Source: Developed by Author

#### 4.1. Architectural Applications: ECommerce, IoT, and DeFi

The empirical literature overwhelmingly underscores that the decentralized and borderless nature of digital money provides unprecedented efficiencies in global commercial architectures. Specifically, the integration of digital currencies into ecommerce ecosystems fundamentally mitigates the friction associated with traditional cross border transactions, circumventing prohibitive foreign exchange fees and asynchronous settlement times. This operational efficiency is particularly transformative for small and medium sized enterprises (SMEs), which are frequently marginalized by traditional banking infrastructure. By leveraging digital money, SMEs can seamlessly integrate into the global digital economy, expanding their consumer base and dramatically enhancing their competitive parity (Chawla & Kumar, 2021). However, this accelerated digitalization of commerce concurrently introduces elevated vectors for fraudulent cyberactivity, necessitating the integration of advanced cryptographic blockchain security protocols into ecommerce platforms to safeguard institutional and consumer integrity (Gaurav & Gupta, 2022).

Beyond macroscopic ecommerce, the literature identifies digital money as the critical economic lubricant for the burgeoning Internet of Things (IoT) ecosystem. As global architectures become increasingly defined by interconnected smart devices, traditional payment rails are structurally incapable of processing the immense volume of ultrafast, low value micropayments required

for IoT autonomy. Cryptographic digital money solutions resolve this latency, enabling secure, near instantaneous machine to machine (M2M) financial settlements (Astuti et al., 2022; Khanh et al., 2022). This integration acts as a foundational pillar of the broader digital revolution, reinforcing the systemic necessity for secure wireless communication protocols intertwined with robust financial cryptography (Hasan & Habib, 2023; Nasirahmadi & Hensel, 2022).

Furthermore, the synthesis highlights Decentralized Finance (DeFi) and programmable smart contracts as the most disruptive derivations of digital money. Smart contracts fundamentally restructure financial intermediation by utilizing blockchain architectures to algorithmically execute complex, conditional transactions without human intermediation or centralized oversight (Khan et al., 2021). DeFi leverages this programmability to replicate and optimize traditional banking services—such as peer to peer (P2P) lending, collateralized borrowing, and decentralized exchanges—entirely outside the purview of traditional central banking (Amler et al., 2021; Grassi et al., 2022). While DeFi offers unparalleled agility and access, the literature critically notes that it introduces severe systemic vulnerabilities, including smart contract exploitation (Bartoletti et al., 2020), severe antimoney laundering (AML) compliance deficits (AlTawil, 2022), and the existential threat of total disintermediation for incumbent financial institutions (Wronka, 2021).

#### **4.2. Societal Implications and Consumer Behavior Dynamics**

The technological proliferation of digital money is inextricably linked to shifting sociological paradigms and evolving consumer behavioral dynamics. From a socioeconomic perspective, mobile money ecosystems and digital wallet infrastructures are empirically validated as the most effective contemporary mechanisms for bridging the global financial inclusion gap. By democratizing access to frictionless financial services, digital money directly empowers underbanked populations, fostering microeconomic development and augmenting household resilience against exogenous income shocks (Amoah et al., 2020; Bongomin et al., 2021). However, consumer adoption is not solely predicated on functional utility. The literature

indicates that the catastrophic global disruptions precipitated by the COVID19 pandemic served as a massive inflection point, forcefully accelerating the digitization of consumer preferences toward contactless and asynchronous financial technologies (Amoah et al., 2021). Post pandemic consumer behavior is increasingly influenced by ethical, sustainable, and transparent financial considerations (Farias, Coruk, & Simão, 2021). Consumers demand digital literacy frameworks and robust consumer protection protocols to mitigate the perceived risks of digital financial engagement (AlAjmi, 2022). Consequently, the successful proliferation of digital money is contingent upon effective digital leadership initiatives capable of fostering societal trust and financial literacy (Di Giulio & Vecchi, 2021).

#### **4.3. Future Prospects: Environmental Sustainability and Scenario Planning**

A critical contradiction identified in the literature is the tension between the technological efficiency of digital money and its environmental sustainability. The intensive computational requirements of decentralized consensus mechanisms (e.g., Proof of Work) pose a severe threat to global climate mitigation efforts. The synthesized literature advocates for the application of rigorous Life Cycle Assessments (LCA) to quantify the precise environmental footprint of digital money architectures, from hardware resource extraction to electronic waste disposal (Bag et al., 2021). To navigate these emergent challenges, the academic discourse emphasizes the necessity of predictive scenario planning and strategic foresight. Researchers propose the deployment of advanced simulation models, such as digital twins, to virtualize and optimize the macro architectures of digital money systems before physical implementation (Mansour et al., 2023; Nasirahmadi & Hensel, 2022). By testing diverse socioeconomic pathways through spatial mapping and empirical forecasting, policymakers and central banks can proactively identify systemic vulnerabilities and design sustainable, inclusive digital financial ecosystems that balance radical technological innovation with global environmental imperatives (Duguma et al., 2022; Ngwakwe, 2023).

## **5. CONCLUSIONS AND RECOMMENDATIONS**

The proliferation of digital money unequivocally constitutes a paradigm shift that is actively dismantling and restructuring the conventional global financial architecture. This systematic thematic review comprehensively synthesized the multidisciplinary literature spanning the technological, economic, regulatory, and sociological dimensions of digital money. The synthesis establishes that while decentralized cryptocurrencies and sovereign CBDCs exhibit fundamentally divergent architectural philosophies, both are powerful catalysts for financial inclusion, transactional efficiency, and the execution of novel structural innovations such as smart contracts and DeFi. However, the empirical evidence dictates that these opportunities are counterbalanced by profound systemic risks. The integration of digital money heavily disrupts traditional fractional reserve banking models, obscures the mechanisms of monetary policy transmission, and exposes the global financial system to elevated vectors of cybercrime and illicit capital flight. Consequently, the trajectory of the global economy relies heavily on the capacity of sovereign and international regulatory bodies to construct dynamic legal frameworks that securely anchor these technologies without stifling innovation.

### **5.1. Limitations of the Study**

While this review offers a comprehensive synthesis of the current academic landscape, it is subject to several methodological limitations that warrant acknowledgment. First, the literature search was geographically unbounded but linguistically restricted to English language publications indexed in Scopus, WoS, and Google Scholar between 2015 and 2023. This parameter potentially excludes highly relevant socioeconomic studies published in native languages within specific emerging markets where digital money adoption is occurring most rapidly. Second, the extreme volatility and rapid technological iteration inherent to cryptocurrencies and DeFi ecosystems imply that certain empirical observations may rapidly become obsolete. Finally, because global CBDC initiatives are largely constrained to pilot phases, the literature surrounding CBDCs relies heavily on theoretical macroeconomic modeling

rather than postimplementation empirical data. Beyond the limitations of the present review, the synthesis also exposes methodological weaknesses within the reviewed studies themselves: the evidence base is dominated by cross-sectional and single country case designs, exhibits a pronounced geographic skew toward emerging market mobile money settings, and offers few longitudinal or causal investigations, such that several reported associations should be interpreted as suggestive rather than confirmatory.

## **5.2. Actionable Policy Recommendations**

To mitigate these limitations and actively address the systemic challenges identified in the literature, this study proposes a set of strategic recommendations tailored for key stakeholders. First, for policymakers and central banks, sovereign monetary authorities must accelerate the empirical testing of CBDCs by establishing insulated, multistakeholder “regulatory sandboxes” that test the macroeconomic impact of CBDCs on traditional commercial bank deposits and interest rate mechanisms before executing full-scale retail issuance. Second, for global regulatory architectures, the fundamentally borderless nature of decentralized digital currencies necessitates international regulatory synchronization, whereby global regulatory bodies (e.g., the Financial Action Task Force) establish harmonized antimoney laundering (AML) and combating the financing of terrorism (CFT) protocols specifically engineered for blockchain architectures to prevent cross border regulatory arbitrage. Third, for traditional financial institutions, incumbent banks should move beyond defensive posturing toward symbiotic partnerships with agile FinTech startups, leveraging FinTech capabilities to deploy blockchain secured digital services to their consumer base while retaining their institutional trust advantage. Fourth, for future academic research, subsequent empirical investigations should pivot toward longitudinal studies examining the real-world environmental impact of digital money architectures, prioritizing comprehensive life cycle assessments (LCAs) that quantify the carbon footprint of disparate consensus mechanisms and guide the transition toward ecologically sustainable digital financial systems. Ultimately, the responsible integration of digital money

holds the potential to drive financial inclusion, catalyze microeconomic development, and foster societal progress, marking a transition toward a more equitable, efficient, and resilient global financial ecosystem.

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**IMPACT OF INDIVIDUAL TAXPAYER'S PERCEPTION ON TAX  
EVASION IN SRI LANKA**

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## **ABSTRACT**

Analysis of the factors which are affecting tax evasion is needed for the formulation of tax policies and tax compliance, which is important for the economic development of any developing nation, including Sri Lanka. Although the importance of this topic is great, there is a significant research gap in relation to the overall study of taxpayers' perceptions in all districts of Sri Lanka. This study seeks to address this gap by examining how the perceptions of individual taxpayers influence tax evasion in Sri Lanka. Taxpayers are directly involved in the tax system and therefore provide valuable insights into factors influencing compliance behaviour. Four variables, namely tax knowledge, tax fairness, tax morale, and compliance cost, were identified as the proxy for the perception of the taxpayer. This study adopted the quantitative method and convenience sampling technique with a sample size of 352 individual Sri Lankan taxpayers. The data was collected using a structured questionnaire among the individual taxpayers in Sri Lanka. The analysis of data was carried out using descriptive statistics, correlation, and regression analysis. The study found that tax knowledge, tax fairness, tax morale and compliance cost significantly impact tax evasion. When tax knowledge, loss of tax morale, expectation of tax fairness and compliance cost increased, the tax evasion also increased. Furthermore, the study suggests that policymakers should invest in comprehensive educational campaigns and simplified resources to improve taxpayer awareness and comprehension of tax laws.

**Keywords:** Compliance cost, Tax evasion, Tax fairness, Tax knowledge, Tax morale.

## **1. INTRODUCTION**

### **1.1. Background of the Study**

Taxes are a fundamental component of a functioning society. According to Abiola & Asiweh (2012), if the tax system is not implemented in a proper manner, such will cause many problems in the public society. According to French laws, taxation serves the fundamental objective of supporting the upkeep of public force and administrative expenses. But when individuals avoid paying taxes, the objectives of taxation are not properly achieved (Directorate, 2009). According to Abiola & Asiweh (2012), the generation of funds for financing expenditures of the government, the redistribution of wealth and income to ensure the welfare and equality of citizens, and the regulation of the economy to ensure an enabling environment for businesses to flourish are some of the major functions of taxation. Moreover, to finance public goods and services, the taxes provide necessary funds to the government ranging from infrastructure development to healthcare and education (Hammayo et al., 2020). Also, taxes contribute to the redistribution of wealth, helping to reduce income inequality by imposing higher tax burdens on higher-income individuals, and taxes also promote economic stability by enabling governments to manage aggregate demand, stimulate or moderate economic growth, and control inflation through fiscal policy (Asawasakulkrai, 2022). According to Alstadsæter et al. (2022), the fight against tax evasion will help improve the tax base, the progressivity of the tax system, and income inequality among taxpayers. The COVID-19 pandemic has caused a strain on tax authorities, and as a result, there is a high demand on taxpayers to fulfil their tax duties.

One of the main revenue sources of government revenue in Sri Lanka is tax revenue (Kurupparachchi et al., 2024). According to Central Bank of Sri Lanka (2022), in the year 2022, 53.46% of the state income has been earned through tax income. It is 43.43% in 2019 and 38.30%

in 2018. Also, according to Department of Inland Revenue (2021), from 2021 to 2022 only, the number of taxpayers registered in that department has increased from 437,547 to 507,095. But on the other hand, tax evasion is also increasing day by day in Sri Lanka. Tax evasion continues to be a significant challenge in many developing countries, including Sri Lanka. In the last few years, a low percentage of individuals in Sri Lanka are paying taxes properly. Also, the Department of Inland Revenue has lost substantial revenue as a result of tax evasion, more than double the estimated PAYE (Pay As You Earn) tax collection. According to the Department of Inland Revenue (2021), they have lost an amount of LKR 72,931,396,277 from their estimated income in 2022 alone.

In simple terms, “tax evasion” is the illegal underpayment or non-payment of taxes. Tax evasion takes place when people or organizations intentionally declare their income or expenses inaccurately, contrary to the provisions of the taxation act. This can be done either by declaring lower income or higher deductions (Gabor, 2012). According to Rashid and Ahmad (2020), a list of reasons is there for tax evasion. First and foremost, among these is the taxpayers’ attitude towards the tax system.

In recent years, the government of Sri Lanka has launched different tax policies and continues to implement new ones. During the COVID-19 pandemic, the tax authority in Sri Lanka has been playing a significant role in maintaining a taxpayer-friendly environment and assisting taxpayers in meeting their tax obligations (Dissanayake & Damayanthi, 2024). The tax authority implemented an online payment system to meet the requirements of taxpayers during the period (Department of Inland Revenue, 2021). However, despite these efforts, the tax evasion issue has not been improved and remains the same. Tax revenue of Sri Lanka as a percentage of GDP was about 11.9% before the COVID-19 pandemic and 8.8% in 2022 (Central Bank of Sri Lanka, 2022).

Previous studies have extensively examined tax evasion and the challenges associated with tax administration and compliance. However, recent scholarly investigations concerning the perception of the taxpayer and its implications on tax evasion are limited. Therefore, this study is mainly driven by this gap. The research was intended to provide a response to the question of "What is the impact of individual taxpayers' perception on tax evasion in Sri Lanka?" through thorough research study on the perception of individual taxpayers on tax evasion in Sri Lanka.

## **1.2. Problem Justification and Problem Statement**

Taxpayers' perception towards tax evasion is important in designing strategies to reduce tax evasion. Through the perception of taxpayers towards tax evasion, researchers can identify some of the factors that influence tax evasion. Frey and Torgler (2007) highlight that social norms and perceptions of fairness in the tax system play an important role in shaping the behaviour of taxpayers. Additionally, the study assumes importance because of the unique socio-cultural setting and economic environment in Sri Lanka. The study has a unique blend of cultural, social, and economic factors that can shape the behaviour of taxpayers in a manner that is different from other countries. By targeting Sri Lanka, the study can identify the factors that shape tax evasion in the country. As such, the results of the study can be used to design strategies to address the complexities of the Sri Lankan tax environment. Kirchler et al., (2008) argue that understanding the context and attitudes of taxpayers is important in designing strategies to improve tax compliance.

In conclusion, this study is highly justified given the critical role of taxation in economic development, the harmful effects of tax evasion, and the unique socio-cultural context of Sri Lanka. Therefore, this study will provide a comprehensive understanding of individual taxpayer

perceptions and their impact on tax evasion in Sri Lanka by addressing the question, “Does individual taxpayer’s perception impact on tax evasion in Sri Lanka?”

### **1.3. Research Questions**

The following research questions were developed to address the primary research problem.

“What is the impact of individual taxpayer’s perception on tax evasion in Sri Lanka?”

Also, these are the specific questions of this study.

1. What is the impact of tax knowledge on tax evasion in Sri Lanka?
2. What is the impact of tax morale on tax evasion in Sri Lanka?
3. What is the impact of tax fairness on tax evasion in Sri Lanka?
4. What is the impact of compliance cost on tax evasion in Sri Lanka?

### **1.4 Research Objectives**

Main objective:

To investigate the impact of perception of individual taxpayers on tax evasion in Sri Lanka.

Specific objectives:

1. To examine the impact of tax knowledge on tax evasion in Sri Lanka.
2. To examine the impact of tax morale on tax evasion in Sri Lanka.
3. To examine the impact of tax fairness on tax evasion in Sri Lanka.
4. To examine the impact of compliance cost on tax evasion in Sri Lanka.

### **1.5. Significance of the Study**

Theoretical Significance: The study’s theoretical results can be used by scholars and researchers in Sri Lanka to further their understanding of the behavioural elements influencing tax compliance

in that country. By taking into account factors like tax knowledge, tax morale, tax fairness and tax compliance cost, this research can aid in the creation of more context-specific theoretical models.

**Empirical Significance:** This study's empirical findings can help the tax administration parties like Department of Inland Revenue and policymakers in Sri Lanka to create plans to deal with the prevailing issues in the tax system in the country. Policymakers can improve their methods to approach in a better way to Sri Lankan taxpayers and raise overall compliance rates by understanding the factors which influence taxpayers' views regarding tax evasion in Sri Lanka.

**Methodological Significance:** The Sri Lankan public policy and administration community can benefit from the approaches adopted in the study. In this way, they can perform more comprehensive analyses of taxpayers' attitudes and behaviours, thus developing effective strategies for implementing policies in the Sri Lankan environment.

**Practical Significance:** Tax practitioners and consultants in Sri Lanka can use the findings of this research to help taxpayers in the country. Consequently, tax practitioners can provide more effective guidance to taxpayers and contribute to strengthening voluntary tax compliance in Sri Lanka.

## **2. LITERATURE SURVEY**

### **2.1. Tax Evasion**

Understating income on one side or overstating deductions on the other is known as tax evasion, which is a violation of the Taxation Act (Deb & Chakraborty, 2017). Because of this, tax evasion has made it challenging for the government and tax authorities to increase the amount of money collected from taxpayers (Rashid & Ahmad, 2020). "Thoughtful and eagerly carried out act of not

unveiling comprehensive taxable income in order to reimburse lesser tax" is how Alm & Martinez-Vazquez (2007) define tax evasion. Tax evasion happens when someone wilfully neglect to pay taxes, such as by not filing their returns, declaring false income, or underpaying taxes when they have the means to pay the full amount owed (Korndörfer et al., 2014).

Tax evasion involves deliberate actions taken by individuals or businesses to deceive tax authorities, such as falsifying financial records, engaging in offshore tax schemes, or participating in cash transactions to conceal taxable income (Everest-Phillips, 2012). According to Adhikari et al., (2021), tax evasion refers to the deliberate act of violating tax laws by individuals or entities to evade the payment of taxes owed, typically through deceptive practices such as hiding income, assets, or transactions from tax authorities.

## **2.2. Taxpayer's Perception**

Taxpayer perception refers to the subjective views, attitudes, beliefs, and feelings that taxpayers hold towards taxes, the tax system, and tax authorities. It encompasses various aspects such as fairness, trust, compliance behaviour, attitudes towards taxation, and satisfaction with government services (Slemrod, 2019).

Taxpayers' perceptions of tax evasion are positively impacted by factors such as tax knowledge, tax morale, the tax system, tax fairness and compliance costs (Deb & Chakraborty, 2017). It aids in enhancing taxpayers' understanding, which raises their consciousness of the nation's tax code and regulations (Palil & Mustapha, 2011). The internal drive to voluntarily contribute to the public benefit by adhering to the tax system is known as tax morale.

### **2.3. Tax Knowledge**

"Tax knowledge" is the awareness and understanding that people have about tax laws, regulations, and their duties. Because informed taxpayers are more likely to abide with tax regulations, it is crucial in determining tax compliance (Saad, 2014). The economic deterrence theory states that individuals make logical decisions in order to maximize their utility; as a result, the more taxpayers understand about taxes, the less advantageous tax evasion is since they are more aware of the penalties and the likelihood of being detected (Loo et al., 2012).

H1: There is a significant impact of tax knowledge on tax evasion in Sri Lanka.

### **2.4. Tax Morale**

"Tax morale" is defined as the internal motivation of taxpayers to pay taxes, which is based on civic duty and moral beliefs. A high tax morale is related to high rates of compliance because it reflects the non-economic factors that shape tax behaviour (Alm & Torgler, 2011). According to social norm theory, peer behaviour and society norms influence tax morale; people are more inclined to comply when tax evasion is perceived as immoral (Palil & Mustapha, 2011). Additionally, according to the idea of planned behaviour, moral obligations influence compliance intentions (Bobek & Hatfield, 2003).

H2: There is a significant impact of tax morale on tax evasion in Sri Lanka.

### **2.5. Tax Fairness**

Tax fairness includes distributive, procedural, and retributive fairness, as well as how taxpayers view the equality and fairness of the tax system. These opinions are important because they affect the willingness of taxpayers to comply (Murphy, 2011). According to equity theory, individuals compare their tax burden with others and assess fairness based on this comparison, with perceived inequities leading to higher chances of evasion (Wenzel & Taylor, 2003). Social exchange theory

also proposes that a positive view of procedural fairness can increase voluntary compliance because taxpayers feel valued by the tax administration (Van Dijke & Verboon, 2010).

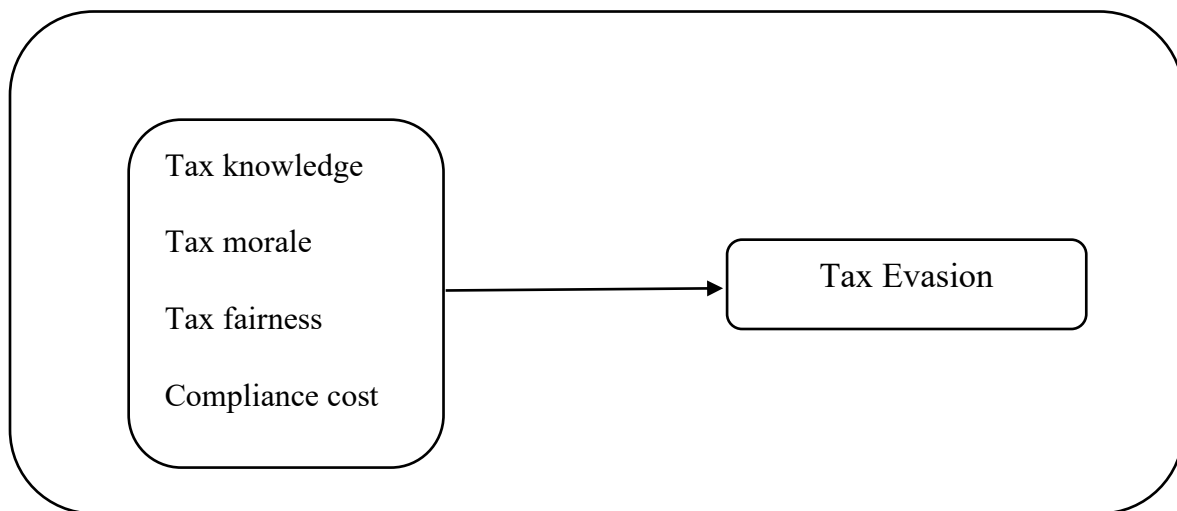
H3: There is a significant impact of tax fairness on tax evasion in Sri Lanka.

### 2.6.Compliance Cost

Compliance cost refers to the cost that taxpayers incur in order to comply with their tax obligations. High compliance costs can act as a deterrent to compliance as they impose a burden on taxpayers (Lignier & Evans, 2012). High compliance costs lead to low benefits of compliance, hence high evasion rates (Coolidge, 2012). High compliance fees have been found to positively impact compliance behaviour. According to Lignier and Evans (2012), low compliance rates were caused by high compliance expenses for small enterprises in Australia.

H4: There is a significant impact of compliance cost on tax evasion in Sri Lanka.

Consistent with the above hypotheses, the conceptual framework below has been established.



**Figure 2.1 Conceptual framework**

*Source: By the researcher from the literature review*

## **2.7.Theoretical Framework**

Rashid (2020) claims that a number of ideas and models have been created in the past to deal with the issue of tax evasion. The "economic deterrence theory" is the first of its sort in the literature on tax compliance studies and is one of the most commonly accepted hypotheses. According to this idea, in order for taxpayers to decide whether or not to comply with tax regulations, they need economic factors. As per this view, always taxpayers are economically reasonable parties who will avoid paying taxes if they believe the advantages of doing so outweigh the possible consequences of being discovered (Hasseldine & Bebbington, 1991). Furthermore, Hasseldine and Bebbington (1991) also recognized the deterrence model by adding two variables: the taxpayer's impression of tax evasion depends on their risk aversion level.

However, the majority of earlier scholars have noted that no single theory of tax compliance can be applied universally to every situation (Horodnic, 2018; Richardson & Sawyer, 2001). Accordingly, the contingency theory suggests that the model and the contingency elements should vary depending on the kind of research (Richardson & Sawyer, 2001). According to Richardson & Sawyer (2001), contingency theory states that it is impossible to create a universal model that accounts for every circumstance that could arise.

Research on human behaviour and behaviour prediction has made extensive use of the Theory of Planned Behaviour (TPB) (Ajzen, 2001). This theory is divided into three categories: attitude, subjective norm, and perceived behaviour control (Mohamad et al., 2013). The concept of Perceived Behavioural Control (PBC) is incorporated into the Theory of Reasoned Action (TPB), which is a development of TRA. The TPB has been successfully applied to tax settings and has been widely validated in the social psychology literature. Its foundation provides a means of exploring the underlying assumptions that impact the taxpayer's decision to overpay (Bobek and

Hatfield 2003). A person's socioeconomic status raises their level of tax understanding, and vice versa. Lack of knowledge about the tax system is one of the reasons for tax evasion (Fuadi et al., 2023). Taxpayers who are more conscious of taxes and tax fairness are less likely to evade taxes (Hajawiyah et al., 2022).

### **3. METHODOLOGY**

#### **3.1. Operationalization**

The study's independent variables include compliance costs, tax knowledge, and tax morale and tax fairness. In addition, tax evasion is the dependent variable.

**Table 3.1 Operationalization table**

<b>Variables</b>	<b>Definition</b>	<b>Measurement</b>	<b>Empirical Evidence</b>
<b>Independent variables</b>			
Tax Knowledge	Awareness and understanding of tax laws, procedures, obligations and tax-related information.	5-point Likert scale	(Rantelangi & Majid, 2017)
Tax morale	Intrinsic motivation and ethical willingness to pay taxes voluntarily.	5-point Likert scale	(Rantelangi & Majid, 2017)

Tax Fairness	Perception that the tax burden and tax administration are equitable and just.	5-point Likert scale	(Kim, 2020)
Compliance Cost	Monetary, time and administrative costs incurred in meeting tax obligations.	5-point Likert scale	(Eichfelder & Schorn, 2012)
<b>Dependent variables</b>			
Tax evasion	Deliberate underreporting of income, overstatement of deductions or other unlawful actions intended to reduce tax liabilities.	5-point Likert scale	(Rantelangi & Majid, 2017)

*Source: Developed by the researchers*

### 3.2. Population and Sampling

The target population consisted of registered individual taxpayers in Sri Lanka who actively file or pay income tax. According to Department of Inland Revenue statistics, approximately 204,467 individual taxpayers were registered at the time of the study. Due to the absence of a comprehensive sampling frame and practical constraints associated with accessing taxpayers across all districts, a non-probability convenience sampling technique was employed. Although convenience sampling limits statistical generalizability, it is frequently used in behavioural taxation studies where access to respondents is restricted. To improve sample adequacy and statistical power, data were collected from 352 respondents. The sample size exceeds the minimum threshold recommended for multiple regression analysis and is also consistent with

Krejcie and Morgan's (1970) guideline for large populations. The Krejcie and Morgan table was used solely as a benchmark for sample adequacy rather than as evidence of representativeness.

### **3.3. Method of Data Collection**

Primary data were collected using a structured questionnaire developed based on established literature. The questionnaire was distributed electronically through Google Forms using email and social media platforms. Participation was voluntary and anonymous.

### **3.4. Goodness of Data**

Construct validity was assessed through exploratory factor analysis. Kaiser-Meyer-Olkin (KMO) values exceeded the recommended threshold of 0.50, while Bartlett's Test of Sphericity was significant at  $p < 0.001$ , confirming the suitability of the data for factor analysis. Reliability was assessed using Cronbach's Alpha. The values obtained for Tax Knowledge (0.835), Tax Morale (0.759), Tax Fairness (0.815), Compliance Cost (0.852), and Tax Evasion (0.806) exceeded the accepted threshold of 0.70, indicating satisfactory internal consistency.

### **3.5. Method of Data Analysis**

Data were analysed using SPSS. Descriptive statistics were used to summarize respondent characteristics and variable distributions. Pearson correlation analysis was conducted to examine relationships among variables. Multiple regression analysis was employed to assess the effect of tax knowledge, tax morale, tax fairness and compliance cost on tax evasion. Multicollinearity was examined using Variance Inflation Factor (VIF) and tolerance values. Statistical significance was evaluated at the 5% significance level.

**4. DATA ANALYSIS**

**4.1. Demographic Profiles of Respondents**

The demographic characteristics of the 352 Sri Lankan taxpayers who participated in the survey are listed in this table. The following factors are taken into account: income, work experience, employment position, education level, gender and age.

**Table 4.1 Demographic profiles of respondents**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>			<b>Age</b>		
Male	234	66.5	18 - 25	15	4.3
Female	118	33.5	26 - 35	99	28.1
<b>Total</b>	<b>352</b>	<b>100</b>	36 - 45	151	42.9
			Above 45	87	24.7
			<b>Total</b>	<b>352</b>	<b>100</b>
<b>Education Level</b>			<b>Working Status</b>		
Advanced Level	75	21.3	Private	78	22.2
Diploma	96	27.3	Self-employed	141	40.1
Degree	140	39.8	Public	133	37.8
Master	41	11.6	<b>Total</b>	<b>352</b>	<b>100</b>
<b>Total</b>	<b>352</b>	<b>100</b>			

<b>Work Experience</b>			<b>Average Annual Income (000)</b>		
1- 5 Years	78	22.2	1,200 - 2,400	142	40.3
6-10 Years	141	40.1	2,400- 3,600	139	39.5
11 Above	133	37.8	3,600- 4,800	61	17.3
<b>Total</b>	<b>352</b>	<b>100</b>	Above 4,800	10	2.8
			<b>Total</b>	<b>352</b>	<b>100</b>

Source: Survey Data

The primary dataset did not contain any missing data. Both skewness and kurtosis values were found to be within the acceptable range to ensure a normal distribution of the data. The absence of multicollinearity among the independent variables has also been disclosed, confirming that there was no correlation between them.

#### 4.2. Correlation Analysis

Table 4.2 Pearson correlation analysis

	<b>TF</b>	<b>TK</b>	<b>TM</b>	<b>CC</b>	<b>TE</b>
<b>TF</b>	1				
<b>TK</b>	.560**	1			
<b>TM</b>	.426**	.479**	1		
<b>CC</b>	.485**	.516**	.437**	1	
<b>TE</b>	.483**	.710**	.413**	.589**	1

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

Source: Survey Data

Table 4.2 presents the results of the Pearson correlation analysis among Tax Fairness (TF), Tax Knowledge (TK), Tax Morale (TM), Compliance Cost (CC), and Tax Evasion (TE). All correlations are positive and statistically significant at the 0.01 level ( $p < 0.01$ ), indicating meaningful linear relationships among the variables. Tax evasion (TE) shows the strongest positive correlation with tax knowledge (TK) ( $r = 0.710, p < 0.01$ ), suggesting that higher levels of tax knowledge are associated with higher levels of reported tax evasion. This finding may suggest that taxpayers with greater knowledge of tax regulations are also more aware of legal ambiguities and opportunities for aggressive tax planning, which may increase the likelihood of strategic non-compliance. Tax evasion also has moderate positive relationships with compliance cost (CC) ( $r = 0.589, p < 0.01$ ), tax fairness (TF) ( $r = 0.483, p < 0.01$ ), and tax morale (TM) ( $r = 0.413, p < 0.01$ ). The positive association between compliance cost and tax evasion suggests that higher perceived costs of complying with tax regulations may encourage evasion behavior. Similarly, the relationship between tax fairness and tax evasion may indicate that perceptions of unfairness in the tax system influence taxpayers' willingness to evade taxes. Inter-correlations among independent variables are moderate (ranging from 0.426 to 0.560), which suggests that multicollinearity is unlikely to be a serious concern, as none of the correlation coefficients exceed the commonly accepted threshold of 0.80.

### **4.3. Multiple Regression Analysis**

The summary comprises R, modified R Square, and SD, Error of the estimate, according to the above-mentioned model. This shows the strength of the constructed regression line.

**Table 4.3 Model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.653 <sup>a</sup>	.426	.420	.49718
a. Predictors: (Constant), CC, TM, TF, TK				
b. Dependent Variable: TE				

*Source: Survey Data*

The R<sup>2</sup> number indicates how much of the variance in the dependent variable (Tax Evasion) can be explained by the independent variables (Tax Knowledge, Tax Morale, Tax Fairness and compliance cost). According to the table, the test of R square (R<sup>2</sup>) value is 0.426. It means that 42.6% variance of tax evasion is explained by its tax knowledge, tax morale, tax fairness and compliance cost.

**4.4. ANOVA Test**

**Table 4.4 ANOVA table**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.758	4	15.939	64.484	.000 <sup>b</sup>
	Residual	85.773	347	.247		
	Total	149.531	351			
a. Dependent Variable: TE						
b. Predictors: (Constant), CC, TM, TF, TK						

*Source: Survey Data*

The regression model has a significance level of less than 0.05 ( $0.000 < 0.05$ ), as indicated by the ANOVA table. The ANOVA results indicate that the overall regression model is statistically significant ( $F = 64.484, p < 0.001$ ). This finding confirms that tax knowledge, tax morale, tax fairness, and compliance cost collectively explain variations in tax evasion among individual taxpayers in Sri Lanka. The F-value of 64.484, which shows that the regression model fits the data well, lends more credence to this. The model's ability to accurately predict the value of the dependent variable is further supported by the big F-value and modest p-value, which offer compelling evidence that the independent variables have a significant impact on tax evasion.

**4.5.Coefficient Analysis**

**Table 4.5 Coefficient analysis table**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1	(Constant)	1.055	.208		5.073	.000		
	TK	.156	.051	.165	3.070	.002	.572	1.748
	TM	.092	.046	.097	2.010	.045	.703	1.422
	TF	.163	.051	.164	3.171	.002	.618	1.618
	CC	.335	.044	.381	7.555	.000	.649	1.541
a. Dependent Variable: TE								

*Source: Survey Data*

Regression analysis looks at how different aspects of tax perception affect tax evasion. Tax expertise is one of the independent variables that has a positive and significant impact on tax

evasion. given that its p-value is 0.002 and its beta value is 0.156. The p-value for tax morale is 0.045, and its beta value is 0.092. It is less than 0.05 ( $0.045 < 0.05$ ), indicating that tax morale has a considerable impact on tax evasion. The p-value for Tax Fairness is 0.002, and its beta value is 0.163. The effect of tax fairness on tax evasion is significant because it is less than 0.05 ( $0.002 < 0.05$ ). Additionally, Compliance Cost's p-value is 0.000 and its beta value is 0.335. The effect of compliance cost on tax evasion is significant because it is less than 0.05 ( $0.000 < 0.05$ ). Since all of the VIF values are below the threshold value of 10, the collinearity statistics (tolerance and VIF) demonstrate that there are no significant multicollinearity issues.

According to the findings of this study, major determinants in tax evasion include tax knowledge, tax morale, tax fairness and the cost of compliance. Accordingly, the linear regression equation can be developed as follows:

$$TE = \alpha + \beta_1TK + \beta_2TM + \beta_3TF + \beta_4CC + \varepsilon$$

TK - Tax Knowledge

TM - Tax Morale

TF - Tax Fairness

CC - Compliance Cost

TE - Tax Evasion

$\alpha$  - Intercept (constant value)

$\varepsilon$  - Error Term

$\beta$  - Beta Value

$$TE = \alpha + \beta_1TK + \beta_2TM + \beta_3TF + \beta_4CC + \varepsilon$$

$$TE = 1.055 + 0.156TK + 0.092TM + 0.163TF + 0.335CC + \varepsilon$$

The regression equation,  $TE = 1.055 + 0.156TK + 0.092TM + 0.163TF + 0.335CC + \epsilon$ , suggests a model where TE represents the dependent variable (tax evasion) and TK, TM, TF and CC are independent variables impacting TE. TK, TM, TF and CC positively impact TE, with coefficients indicating that a 1% change in each of these variables increases TE by 0.156%, 0.092%, 0.163%, and 0.335%, respectively. The constant term (1.055) is the intercept, or the value of TE when all independent variables are zero. The term ' $\epsilon$ ' denotes the error term, capturing unexplained factors affecting TE outside the included variables.

#### 4.6. Hypothesis Testing

All the four hypotheses were accepted within the study as follows:

**Table 4.6 Hypothesis testing**

Hypothesis	Regression		Decision
	$\beta$	P	
H <sub>1</sub> - There is a significant impact of tax knowledge on tax evasion in Sri Lanka.	0.156	0.002	Accepted
H <sub>2</sub> - There is a significant impact of tax morale on tax evasion in Sri Lanka.	0.092	0.045	Accepted
H <sub>3</sub> - There is a significant impact of tax fairness on tax evasion in Sri Lanka.	0.163	0.002	Accepted
H <sub>4</sub> - There is a significant impact of compliance cost on tax evasion in Sri Lanka.	0.335	0.000	Accepted

*Source: Survey Data*

#### **4.7. Findings of the Study**

This study's main goal was to ascertain how taxpayer perceptions affected tax evasion in Sri Lanka. Taxpayers' perceptions of tax evasion were found to be moderately positively correlated, according to the correlation study. All of the independent factors have a positive and significant impact on tax evasion since their coefficient values are positive when compared to tax evasion at a significance level of p value less than 0.05.

Correlation analysis was used to evaluate the relationship between these factors in order to determine the impact of tax knowledge on tax evasion in Sri Lanka. The findings of the correlation analysis demonstrated a moderately positive association between tax expertise and tax evasion. At a p-value of 0.002, the coefficients for tax knowledge and tax evasion are 0.156 and 0.156, respectively. This implies that tax evasion in Sri Lanka is highly influenced by tax expertise.

When compared to tax evasion, the study's coefficient values for tax morale are 0.092 with a significant level of  $p = 0.045$ . Based on it, the researcher finds that tax evasion in Sri Lanka is influenced by tax morale.

When compared to tax evasion, the tax fairness coefficient value is 0.163, with a significance level of  $p = 0.002$ . That makes it evident that tax fairness has an impact on tax evasion in Sri Lanka.

Correlation analysis was used to assess the link between the variables and ascertain the impact of compliance costs on tax evasion in Sri Lanka. The results of the correlation study indicated a moderately positive relationship between the two. When compared to tax evasion, the compliance cost coefficient value is 0.335, with a significance level of  $p = 0.000$ . On the basis of that, it was discovered that tax evasion in Sri Lanka is impacted by compliance costs.

## **5. DISCUSSION**

The findings indicate that tax knowledge has a positive and statistically significant effect on tax evasion among individual taxpayers in Sri Lanka ( $\beta = 0.165$ ,  $p = 0.002$ ). This result appears somewhat surprising because a large body of tax compliance literature generally suggests that greater tax knowledge encourages compliance rather than evasion. For instance, Eriksen and Fallan (1996) found that tax knowledge improves taxpayers' attitudes towards taxation, while Palil (2010) argued that better understanding of tax regulations helps taxpayers comply with their obligations more effectively.

However, the current finding suggests that the relationship may not always be straightforward. In practice, taxpayers who possess a higher level of tax knowledge may also be more aware of weaknesses within the tax system, including administrative gaps, legal ambiguities, and opportunities for aggressive tax planning. From the perspective of Economic Deterrence Theory, individuals tend to weigh the potential benefits and costs before making decisions. Therefore, when knowledgeable taxpayers perceive the risk of detection to be low, they may be more willing to engage in non-compliant behaviour. A similar observation was made by Ogungbade et al. (2021), who suggested that taxpayer awareness can influence evasion behaviour depending on the surrounding institutional environment.

Tax morale was also found to have a positive and statistically significant impact on tax evasion ( $\beta = 0.097$ ,  $p = 0.045$ ). This finding differs from many previous studies which report that higher tax morale is associated with greater compliance. Alm and Martinez-Vazquez (2007) as well as Torgler (2007) argued that individuals with strong moral values are generally less likely to evade taxes because they view tax payment as a social responsibility.

The result obtained in this study may reflect the complexity of taxpayer behaviour in a developing country context. Although individuals may believe that paying taxes is morally correct, their actual behaviour may be influenced by other factors such as trust in government institutions, satisfaction with public services, or perceptions regarding the use of tax revenue. In other words, taxpayers may support the idea of taxation while simultaneously becoming reluctant to comply when they feel that public resources are not being managed effectively. This interpretation is consistent with behavioural tax literature, which emphasizes that moral beliefs alone are often insufficient to explain compliance decisions.

Another interesting finding of the study is the positive relationship between tax fairness and tax evasion ( $\beta = 0.164$ ,  $p = 0.002$ ). Existing literature commonly argues that perceptions of fairness increase voluntary compliance. Murphy (2011) found that procedural fairness strengthens cooperation between taxpayers and tax authorities, while Wenzel and Taylor (2003) reported that fair treatment encourages compliant behaviour.

At first glance, the current result seems to contradict these established findings. Nevertheless, a closer examination suggests a different explanation. It is possible that respondents were evaluating tax fairness based on what they expect from the tax system rather than what they actually experience. Taxpayers who place greater importance on fairness may become more sensitive to unequal treatment, inconsistent enforcement practices, or perceived misuse of public funds. When these expectations are not met, frustration may develop and eventually influence compliance behaviour. Therefore, the finding should not be interpreted as evidence that fairness directly promotes tax evasion. Instead, it may indicate that dissatisfaction arising from unmet expectations of fairness contributes to non-compliance.

Among all the variables examined, compliance cost emerged as the strongest predictor of tax evasion ( $\beta = 0.381$ ,  $p < 0.001$ ). This finding is largely consistent with previous research. Lignier and Evans (2012) demonstrated that high compliance costs create considerable administrative and financial burdens for taxpayers. Likewise, Eichfelder (2014) highlighted that complex tax systems often increase compliance costs and reduce taxpayers' willingness to comply voluntarily.

The present study provides further support for these arguments. When taxpayers perceive tax compliance procedures as costly, time-consuming, or difficult to understand, they may seek ways to avoid those obligations. This issue may be particularly relevant in the Sri Lankan context, where taxpayers have experienced several tax reforms and changing compliance requirements in recent years. Consequently, efforts aimed at simplifying filing procedures, improving digital tax services, and providing better taxpayer support could play an important role in reducing tax evasion.

Overall, the findings suggest that tax evasion cannot be explained solely through economic motivations. Rather, taxpayer behaviour appears to be influenced by a combination of knowledge, perceptions, attitudes, and practical compliance challenges. The results generally support the propositions of Economic Deterrence Theory, the Theory of Planned Behaviour and Contingency Theory. Together, these perspectives indicate that effective tax administration requires more than strict enforcement. Building trust, improving taxpayer understanding, ensuring fair treatment, and reducing compliance burdens may be equally important in encouraging voluntary tax compliance among individual taxpayers in Sri Lanka.

### **5.1. Limitations**

The analysis excluded other significant groups, such as corporations and businesses, because it solely focused on individual taxpayers. Due to the study's methodology, it does not include the full range of tax evasion behaviours and viewpoints that might be prevalent among various taxpayer

groups. Second, the study's sample size is rather tiny when compared to Sri Lanka's total taxpayer population. This may have an impact on how representative the study's conclusions are. Thirdly, there are just four independent variables included in the study to assess tax evasion. Despite their importance, these factors do not fully capture all the factors that could influence tax evasion. This study does not take into account other factors that could influence tax evasion, such as the efficiency of tax enforcement, prevailing economic conditions, cultural perspectives on tax compliance, and the impact of tax advisors. Moreover, it was observable that the 66.5% of responses were from the male respondents. Because of this representation, a male dominance in the results is there, which is a limitation and in this study. Moreover, since the majority of the taxpayers are listed in Western Province, the findings may reflect a biasness of mentioned province, which can be justified in future studies while considering an equal number of taxpayers from each province. As a methodological limitation, because of convenience sampling was used, the findings should be interpreted with caution when generalizing to the entire population of Sri Lankan taxpayers. Future studies are encouraged to employ probability-based sampling techniques and broader geographical coverage to enhance external validity.

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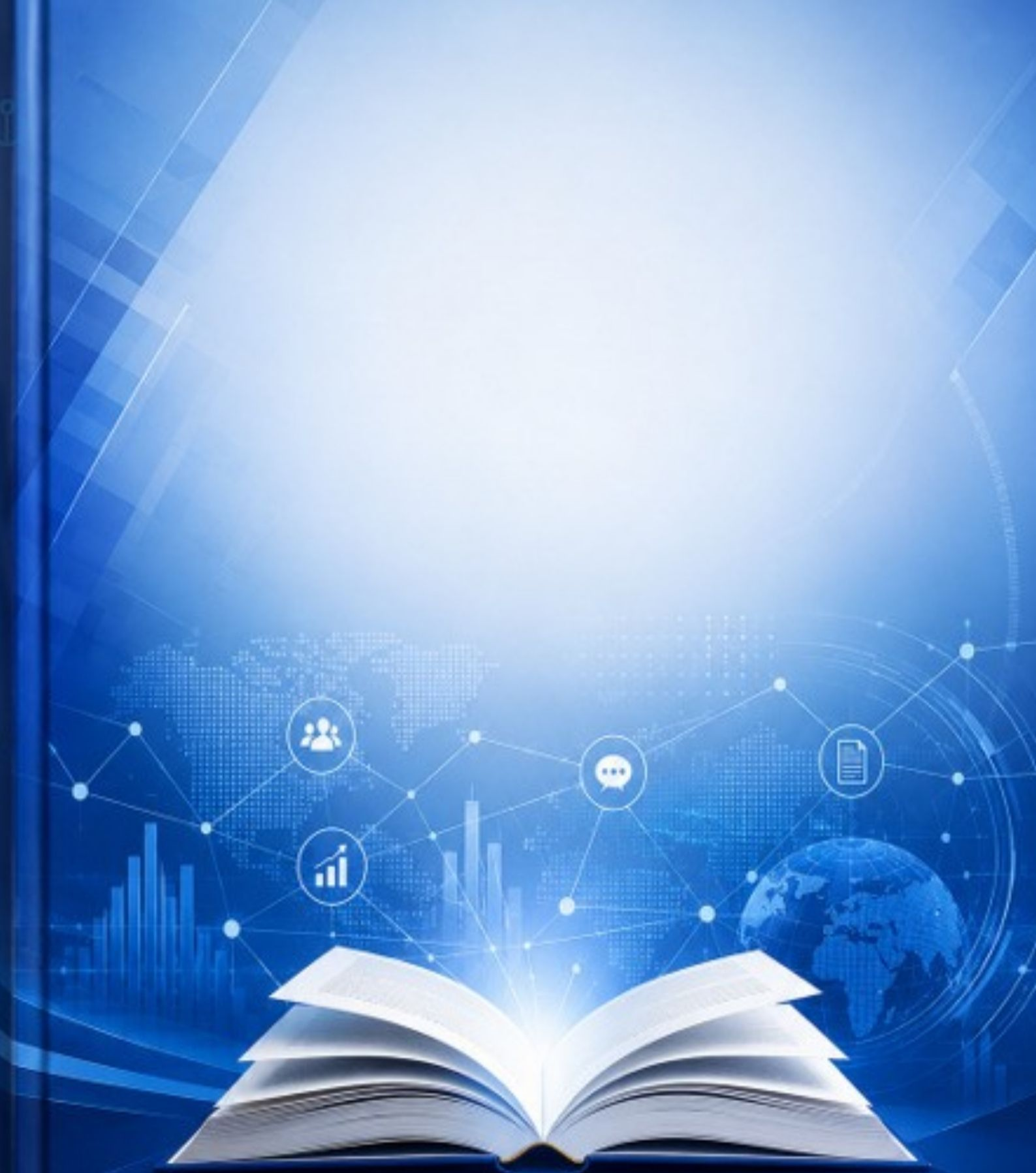
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