

**Do Transaction Costs  
Avert Livelihoods? An  
Empirical Study of  
Samurdhi Beneficiaries in  
Sri Lanka**

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**Abstract**

*This study empirically investigates the impact of Transaction Cost (TC) determinants on the livelihood success of Samurdhi beneficiaries in Sri Lanka. Data was collected from 1820 beneficiaries, employing a structural questionnaire and conducting face-to-face interviews. Partial Least Squares-Structural Equation Modelling (PLS-SEM) was utilized to analyse the data. The empirical results discovered that uncertainty and asset specificity had made insignificant effects though other determinants have influenced significantly on the livelihood success of the Samurdhi beneficiaries. The study found that bounded rationality has a significantly higher negative impact on livelihood success and increases opportunism, affects livelihood success. TC as the mediating variable also significantly reduces livelihood success. It heightens the negative effect of TC determinants on livelihood success, except for asset specificity. Thus, the study identified that making appropriate information flow removes information asymmetry and reduces bounded rationality of Samurdhi beneficiaries, thereby increasing livelihood success. Further, the study may enable evolving strategies to mitigate TC by improving the rational ability and transaction frequency; both helping to avoid the opportunistic behavior of exchange partners and decreasing the transaction uncertainty that leads to improving the livelihoods of Samurdhi beneficiaries.*

**Keywords:** *Bounded Rationality, Livelihoods, Opportunism, Samurdhi Beneficiaries.*

## 1. Introduction

Since Independence all successive governments in Sri Lanka have implemented programs aiming at poverty alleviation and livelihood improvement. In the first two to three decades after Independence, spending on health and education increased, and governments introduced several indirect measures to eradicate poverty and improve livelihoods, including free education and free healthcare and various subsidy programs (Central Bank of Sri Lanka, 1998; Priyanath & Premaratne, 2014). Sri Lanka entered into an open economic policy in 1978, and these policies and programs targeted in increasing consumption and self-employment among the poor to improve livelihoods and poverty alleviation of the families of the oppressed and downtrodden (Central Bank of Sri Lanka, 1998). Consequently, long-term subsidies tend to make the poor dependent on the government (Central Bank of Sri Lanka, 1998; Vijayakumar, 2013; Wickremasinghe, 2011). Therefore, it is more effective to facilitate them to be on their own feet. Towards this goal, the government launched several development initiatives targeting poverty alleviation. Consequently, the Janasaviya program replaced the old food stamp scheme, a revenue exchange program targeted at World Bank assistance (Wickremasinghe, 2011). The main objectives were to bridge the development gap between urban and rural areas and alleviate poverty through livelihood development by providing incentives for industries in rural areas (Gunatilaka et al., 2009). After the 1995 coup, the *Janasaviya* program was replaced by the Samurdhi (Samurdhi) program. It consisted of a small rural infrastructure component, a large income transfer component and a series of loan schemes to help the poor, modeling the Grameen Bank Scheme (Gunatilaka et al., 2009; Ranatunga, 2018). According to the Department of Samurdhi Development (DSD) (2019), the number of Samurdhi beneficiaries in Sri Lanka was 1,414,340 in 2018. The report mentioned that the department had identified that it could empower 1,253,846 families, of which plans have been made to empower 125,385 families. This department implemented livelihood development programs at the divisional level, and projects were implemented to empower identified beneficiary families concerning economic, social, political, physical, psychological, and legal. However, finally the focus of the project alternated to livelihood development of marginalized families in Sri Lanka.

The program which has been in operation for more than three decades had certain hitches that impeded its progress. According to the Global Multidimensional Poverty Index (2020), 0.8% of Sri Lanka's total population cannot afford to spend \$ 1.90 per day, and 4.1% of the population lives below the poverty line. It indicates that the project could not achieve its goals even after a lapse of 30 years. Empirically, people of this category mostly engage in micro and small businesses as livelihoods. Despite receipt of various assistance such as financial, infrastructure and advisory, their

businesses could not survive longer. A more pragmatic approach is needed to understand this situation, as apparently, these individuals will not be able to sustain their livelihoods in the long run based on the exploitation of middlemen and their opportunistic behaviour (Priyanath & Buthsala, 2017). Accordingly, TC can be assumed to be one of the major problems affecting the livelihood industry of these people, and no in-depth study has been found in the literature. According to the transaction cost theory, the manufacturer has to add cost to the production cost to minimize the uncertainty caused by opportunism and exploitation which is due to the bounded rationality of transaction parties. As a result, the price of that product increases opportunism (Carmel & Nicholson, 2005; Nooteboom, 1993). Asset specificity also influences opportunism (Williamson, 1981). Rising product prices make it impossible to compete in the competitive market environment. Based on the above, this research aims to study the impact of opportunism and uncertainty caused by bounded rationality and asset specificity on the livelihoods implemented under the Samurdhi program. Thus, this study has several theoretical, empirical, and practical importance and its findings may aid in improving the livelihoods of Samurdhi beneficiaries by mitigating TC. Studies on TC and agriculture (Bhattarai & Bhusal, 2015; Jagwe, et al., 2009), industry (Carmel & Nicholson, 2005; Dyer & Chu, 2003; Miththrananda, & Priyanath, 2020), and services (Priyanto, et al., 2014; Silva, 2021) have revealed vital findings. However, the effect of TC on livelihoods, particularly in Samurdhi beneficiaries, is deemed understudied. Hence this study is important since the findings may help evolve new strategies to improve the livelihoods of Samurdhi beneficiaries by minimizing TC. Further, the study helps understand the relative efficacy of TC theory in different contexts and how it works practically, especially in the low-income group in Sri Lanka.

The rest of this paper is organised as follows: presenting the theoretical and empirical literature in Section 2, the research model and hypotheses in Section 3, the methodology in Section 4, results and discussion in Section 5, and Section 6 is the conclusion.

## **2. Theoretical background**

This section discusses the theoretical background to understand the variables clearly reviewing TC and livelihood success. In the first section, TC and its determinants have been reviewed, and the second part discusses livelihood success.

Although traditional economists saw the economic institution as a ‘production function,’ they have pointed out that a company with an efficient (low-cost) production process wins in the market. Williamson (1979) introduced Transaction Cost Economics (TCE) and recognized that the productivity of a value chain is a function of both production costs and transaction costs. More generally, TCE focuses

on the theoretical construction of how business transactions are organized in a complex and challenging decision-making environment (Dyer & Chu, 2003; Macher, & Richman, 2008). This theory explains the economics of complex recurring transactions subject to uncertainty and commitments that are difficult to repay without a significant economic loss (Rindfleisch, 2019; Williamson, 1981, 1985). According to Nooteboom (2006, p. 2), “A *transaction is an event that takes place during a process of exchange, in which the transaction has a past and a future.*” TCE’s behavioral assumptions are based on the premise that people’s rationality is limited and can be opportunistic. People try to be rational, but a lack of information limits their potential (Williamson, 1981). There is uncertainty, and it comes in two forms; a). Unpredictable of the behaviour of exchange partners, and b). The unpredictability of threats coming from the external business environment (Rindfleisch, 2019; Williamson, 1985). Behavioural uncertainty is about the intentions and opportunism of the transaction partners and environmental uncertainty is regarding the conditions that affect the execution of an agreement. Because of this, forecasts do not take place between closed parties that can know and regulate all possible scenarios (Rindfleisch, 2019; Williamson, 1985). Therefore, opportunism occurred due to the unpredictability of conditions and asymmetric information (Williamson, 1981). Not all parties are the same opportunists, but there is the potential for opportunism. Accordingly, three stages, such as Contact, Contract, and Control, have occurred during this transaction process to avoid or minimize economic loss (Nooteboom, 1999, 2006).

The contacting step should identify and examine market opportunities, outlets, and partners in purchasing, selling, and transferring ownership of goods and services. Once the customer is found, trade agreements should be negotiated and transfer the ownership of goods and services included in the contract step (Nooteboom, 2006; Rindfleisch, 2019). The process does not end there. Monitoring should be done with the relevant specification conditions to determine compliance with the agreed terms. If the goods or services are not appropriately provided, the terms prescribed by legal, social, or other means must be enforced, and control steps are allowed. In addition to the cost of production, a simple cost has to be borne by following the above process. In some cases, it may also be necessary to embark on a more complex process. For example, further bargaining on price or specifications, proving the feasibility of specifications should be done (Nooteboom, 2006; Rindfleisch, 2019). These additional costs have been divided into two main categories. Formerly called ‘ex-ante’ includes two kinds of costs: search and contracting or negotiating cost. Later is mentioned as an ‘ex-post’ cost, consisting of two types of costs: monitoring and enforcement (Dyer, & Chu, 2003; Hennart, 1993; Nooteboom, 2006; Rindfleisch, 2019; Williamson, 1985).

Dyer (1997, p. 536) mentioned, “*Search costs include the costs of gathering information to identify and evaluate potential trading partners.*” According to Nootboom (2006), search cost includes finding a transaction partner, which is twofold: including search costs on the part of the finder and marketing costs on the part of the supplier who provides the requirement. Search costs are divided into external and internal. External search costs include the financial costs of obtaining information about partners and the opportunity costs of the time it takes to search. At the same time, the organization should make a greater mental effort to search, categorize incoming information, and integrate it with known information. This cost is called the internal search cost and is determined by the ability of the relevant agency or customer to perform the search, which is more or less based on intelligence, prior knowledge, education, and training. According to Dyer (1997), contracting costs are defined as costs associated with negotiating and writing an agreement. Williamson (1985) explained that contracting costs include establishing the governance structure of the transaction, which helps avoid disputes. Further, it also comprises the cost of irregularities, adjustments, and bonding costs for reliable transactions; “*Monitoring costs refer to the costs associated with monitoring the agreement to ensure that each party fulfills the predetermined set of obligations*” (Dyer 1997, p. 536). It can also be expressed as the cost of the action taken to ensure that certain actions that harm the agreement are not taken. Also, in such an agreement, a security bond is formed. Then a certain amount of money is retained for a certain period. The opportunity costs of such refundable amount incurred are also included in the monitoring costs (Williamson 1985). If the trading partner does not act according to the agreement, ex-post bargaining and legal activities should be taken into account. The cost of these activities is referred to as enforcement cost (Dyer 1997; Dyer & Chu, 2003; Williamson 1985).

TCE contains two behavioural assumptions encapsulated in humans, which caused to generate TC (Dyer 1997, Nootboom, 2006; Williamson 1985). The former is bounded rationality. “*Human rational behaviour is shaped by scissors whose two blades are the structure of task environments and the computational capabilities of the actor*” (Simon, 1990, p. 07). Further, Simon (1997, p. 88) said, “*human behaviour is intendedly rational, but only boundedly so.*” According to Simon (1997), two kinds of limitations are contained in humans: limitations on cognition and perception and language limitations. Therefore, barriers and incapability in collecting, processing, and evaluating information and making knowledge for appropriate decisions about a business are referred to as bounded rationality (Zhang, 2009). Bounded rationality conceals possible alternatives to the transaction (Nootboom, 2006). Business transactions are structured in two ways based on the uncertainty caused by bounded rationality. Accordingly, strengthening the decision-making process is one way. The

other issue involves control structures, which then consider the cost of planning, adapting, and monitoring transactions, which in turn increases transaction costs. (Dyer, & Chu, 2003; Nguyen & Crase, 2011; Nootboom, 2006; Ranatunga et al., 2021b; Williamson, 1985).

Opportunism was defined as ‘*interest seeking with guile*’ (Williamson, 1981, p. 30). Nootboom (2006, p. 2) said, “*This includes actions against the interest of a partner, and against the letter or intent of an agreement, when the occasion presents itself, where necessary with the aid of lies or concealment of the truth. The opportunity for this follows from the unpredictability of conditions and asymmetric information.*” Opportunism is “*thought of as taking advantage of adverse circumstances by adapting actions*” (Knight, 2015: 123). Simply, opportunism is the practice of trying to make a profit in a business transaction by distorting information, providing incomplete information, especially misleading information, and deliberately obscuring information. Opportunism can be expressed in two ways. The first is the post-transactional opportunism that arises from the covert activities of the leading business partner. The second is opportunism, caused by giving incomplete information before the transaction or misleading information. (Ranatunga et al., 2021; Priyanath & Premarathne, 2017). According to Hobbes (1996), entrepreneurs act opportunistically by concealing information from opposition partners or engaging in certain business activities to maximize their earnings and benefits. This tendency poses a risk to the business partner. They must either make a vertical integration or contact third parties such as contractors, arbitrators, or courts to avoid this situation. Because of this, opportunism has to bear a high cost (Gray & Boehlje, 2005; Hobbs, 1996; Priyanath and Premarathne, 2017; Ranatunga et al., 2021; Yousuf, 2017).

Uncertainty in transaction cost theory is a direct assumption, contrary to the assumption that perfect information circulates in an exchange from a neo-classical point of view (Williamson, 1981). Galbraith (1974, p. 1), uncertainty means “*the gap between the amount of information required to perform the task and the amount of information already possessed by the organization.*” Therefore, uncertainty can be expressed as incomplete knowledge of an event and its consequences, and it exacerbates problems with the above-mentioned bounded rationality and opportunism (Aubert & Weber, 2001). Uncertainty is divided into two types. Behavioural uncertainty concerns the intentions and competencies of transaction partners and environmental uncertainty of conditions that may affect the execution of agreements and cooperation outcomes (Jalonen, 2012; Williamson, 1985). As mentioned by David and Han (2004), behavioural uncertainty is personal involvement and befalls with the opportunistic behaviour of other transaction parties, especially on specific assets which should be supervised more on transactions. Conversely, environmental uncertainty is characterized by uncertainty concerning

technology, demand, local factor, supply conditions, inflation, etc., and shares this aspect with the bounded rationality and mentioned inability to obtain strategies to adapt the appropriate alternatives due to the lack of information and computational power (Jalonen, 2012; Williamson, 1985). Rindfleisch and Hide (1997) explain that the environmental uncertainty caused by adaptation problems and influences of behavioral uncertainty depends on a performance problem. Business partners implement steps to avoid uncertainty, such as applying contracting processes like planning, promises, and governance and sometimes using more costly approaches like vertical integration (Williamson, 1985). Therefore, uncertainty incurs more cost to business partners.

According to Williamson (1991: 282), “*asset specificity of a transaction refers to the degree to which the assets used in support of the transaction can be redeployed to alternative uses and by alternative users without the sacrifice of productive value.*” The high-specific asset contains a small value outside the particular investment (Rindfleisch & Hide, 1997). Williamson (1991) highlighted that six types of asset specificity have been introduced, including site-specificity, physical asset specificity, human asset specificity, brand name capital, dedicated asset, and temporal specificity. As asset specificity increases, the ability to reuse such assets decreases, which increases bilateral dependency between two transaction parties. Accordingly, contracting hazards between two transaction parties also increased (David & Han, 2004). As a result, maladaptation costs and more asset-specific transactions are pushed to more integrated control structures (David & Han, 2004; Williamson, 1991). According to the TCE, this situation will incur additional bureaucratic costs, which must be offset by bilateral adaptive benefits. Once a specific investment is made in a transaction, the partner (buyer) involved in the transaction may threaten to stop purchasing those products that begin with a relationship-specific investment. Therefore, the specific asset investor imposes the essential capital cost on the investment partner (Klean, 2007). Williamson (1991, p. 284) graphically illustrated those transactions done with low asset specificity use market mechanisms if it is in the middle level use hybrid forms and finally, with high asset specificity use hierarchical forms of governance to minimize the cost.

In the 1990s and 2000s, many institutions were active in directing foreign aid to a poverty eradication agenda to halve poverty stated in the Millennium Development Goals and improve global well-being by 2015 (Brocklesby & Fisher, 2003). It began with the Brundtland Commission Report 1987 (Solesbury, 2003). Accordingly, the resulting “*livelihood*” concept provides a new perspective for the study of rural poverty alleviation as well as rural development and environmental protection in developing countries. Robert Chambers inaugurated the concept of sustainable livelihood at the Institute of Development Studies (IDS) (Solesbury, 2003). They

provided a working definition, which the Department of International Development (DFID) later accepted. It mentioned, “A *livelihood* comprises the capabilities, assets (stores, resources, claims, and access) and activities required for a means of living; a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long-term” (Chambers & Conway, 1992, p. 7). Chambers and Conway (1992) explained that the concept of “*livelihood*” refers to a means of ensuring livelihoods of people, and people’s livelihood activities, as well as their tangible assets (warehousing and resources) and intangible assets (ownership and access). Another widely used definition said a livelihood encompasses the capabilities, assets (including both material and social resources), and activities for a means of living (Carney, 1998). This DEID framework was further developed because it faced some criticism on operationalizing it in the conflict-affected livelihoods and vulnerable people. Therefore, the DFID framework was modified by adding political assets as another aspect (Kulatunga & Lakshman, 2010).

The widely adopted DFID sustainable livelihood framework has four strands. First, people have vulnerability contexts (sudden shocks, trends over time, and seasonal changes). Second, are the capital assets people use for their livelihoods (natural, financial, physical, human, and social capital). Third are people’s livelihood strategies (choices and methods), and fourth are policies, institutions, and processes held to form people’s access to assets and livelihood activities (Brocklesby & Fisher, 2003). Researchers who expected to examine the success of sustainable livelihood programs employed the capital asset-based approach since it is more influential for people’s livelihood (Carney, 1998; Priyanath & Habaragamuwa, 2020; Priyanath & Lakshika, 2020; Scoones, 2009). The above five types of capital have been included in the framework. Natural capital consists of land and produce, water and aquatic resources, trees and forest products, wildlife, wild foods and fibres, biodiversity, and environmental services (Priyanath & Habaragamuwa, 2020; Serrat, 2017).

People need various financial foundations and support for their livelihood success, and financial capital considered all the financial capabilities, including savings, credit, and debt (formal, informal), remittances, pensions, wages, subsidiaries, lumpy properties in this context (Devereux, 2001; Priyanath & Habaragamuwa, 2020; Serrat, 2017). According to the nature of requirements, physical capital can be divided into two: common infrastructure such as transportation, shelter, water, energy, communication production machinery equipment and tools; determining the household living condition including house infrastructure, appliances, and basic needs of living conditions. Apart from these agricultural hand tools and facilities such



as irrigation, land conditions, seed, fertilizer, and pesticides are also included (Ansoms & McKay, 2012; Priyanath & Habaragamuwa, 2020; Serrat, 2017)

Some researchers considered human capital to be one of the major driving forces of livelihood success (AvilaFoucat & Rodríguez-Robayo, 2018). Characteristics of people including household size, age, number of individuals engaging in earning activities in a household, health, nutrition, education, knowledge and skills, capacity to work, and capacity to adapt are used to determine the human capital (Avila-Foucat & Rodríguez-Robayo, 2018; Priyanath & Habaragamuwa, 2020; Serrat, 2017). According to Horsley et al. (2015, p. 376), “*Social capital refers to the social norms, rules, and institutions that regulate people’s lives.*” Some important facets of social capital which researchers mostly considered are cooperation among households (patronage, neighbourhoods, affiliation), formal and informal groups, institutional networks, relationships of trust, norms and reciprocity, collective representation, and leadership (Horsley et al., 2015; Mushongah & Scoones, 2012; Priyanath & Habaragamuwa, 2020; Serrat, 2017).

### **3. Hypotheses**

**Opportunism transaction cost and livelihood success:** Williamson (1985) principally concerned opportunism as a behavioural attribute embodied in transaction parties, and it is defined as self-interest-seeking by the exchange partners. Opportunism generates due to asymmetric information. According to the information processing power variations, the data attempts to mislead, distort, and disguise information also fluctuates (Williamson, 1985). Partner background was one of the aspects some researchers paid attention to (Rindfleisch et al., 2010). Transaction parties who obtain more information are capable of misleading the other party. Livelihood activities of people mostly consist of micro and small-scale industries, especially Samurdhi recipients in Sri Lanka. This study is especially concerned about micro creditors whom the Samurdhi Development Banks provided for livelihood activities. The TCE explains less information dissemination between transaction parties generates opportunism, and therefore, TC exists. Who has less information is misled by another transaction party who is enriched with more information (Nootboom 2006; Williamson, 1981). If opportunism exists, these micro industries encourage protecting them from opportunism by implementing costly approaches that are additional to the production cost. Those approaches include finding new partners, making agreements, make more attention to transactions, etc. These additional conditions, which are followed to avoid opportunism, generate TC and reduce the outcome of the livelihood activities (Knight, 2015; Priyanath & Buthsala, 2017; Priyanath & Premarathne, 2017; Ranatunga et al., 2021a). Thus, the study predicted that;

*H1: Opportunism positively relates to the transaction cost of the Samurdhi Beneficiaries in Sri Lanka*

*H2: Opportunism negatively relates to the livelihood success of the Samurdhi Beneficiaries in Sri Lanka*

**Bounded rationality and livelihood success:** As Williamson noted in 1985, the company's lack of information about the contract reduces the likelihood of making the right decisions freely. Economizing businesses takes two forms based on bounded rationality. One concerns decision-making processes and the other involves formation of control structures. The bounded rationality thereby increases the cost. Limited rationality increases a supplier's ability to use alternative means of contracting because the business partner does not have the cognitive skills and rationality needed to identify the supplier's behaviour. As a result, TC may increase (Nguyen & Crase, 2011; Priyanath & Buthsala, 2017; Ranatunga et al., 2021b). In the face of bounded rationality, an exchange generates fear among the partners. Thus, the parties to the transaction seek to protect their transaction from the opportunistic behaviour of the adversary. Therefore, added cost to the production cost called TC is established as the costs of finding business partners, establishing transactions, monitoring, and enforcement for safeguarding from such unbalanced opportunism of the engaged partners (Dyer, 1997; Priyanath & Buthsala, 2017; Williamson, 1985). Bounded rationality creates barriers in gathering, processing, and assessing information for attending proper decisions affecting business success (Zhang, 2009). The unevenness of information processing in small industries relative to their business partners generated higher costs and negatively affected their business performance (Priyanath & Buthsala, 2017; Ranatunga et al., 2021b). Samurdhi recipients as micro-industry holders cannot realize the marketing behaviour of their business partners because most of them are not nourished with educational and business knowledge, and they should implement more safeguarding. It would have to incur a higher cost to balance the situation, and it leads to reducing their performance, which finally affects livelihood success. Therefore, the study predicted that:

*H3: Bounded rationality positively relates to the transaction cost of the Samurdhi Beneficiaries in Sri Lanka*

*H4: Bounded rationality negatively relates to the livelihood success of the Samurdhi Beneficiaries in Sri Lanka*

**Uncertainty, transaction cost, and livelihood success:** The TCE states that if an organization faces behavioural and environmental uncertainty over opportunism, a mechanism must be put in place to build a more credible basis for overcoming that uncertainty (Jalonen, 2012; Williamson, 1985). In order to avoid the impact of uncertainty on economic organizations, especially risk, the organization needs to use

higher security, which can increase transaction costs and significantly affect economic performance (Ranatunga et al., 2020; Yousuf, 2017). Ranatunga et al. (2020) and Priyanath and Premarathne (2017) confirmed that uncertainty negatively affects the performance of small businesses in Sri Lanka because the uncertainty increases the TC of the small businesses, and this TC reduces the income and, finally, performance. As Samurdhi recipients are largely micro-credit-driven micro-industries, they are affected by both behavioural and environmental uncertainties due to opportunism, and political, cultural, and social effects (Kulatunga & Lakshman, 2010; Priyanath & Habaragamuwa, 2020). Thus, the study predicts that:

*H5: Uncertainty positively relates to the transaction cost of the Samurdhi Beneficiaries in Sri Lanka*

*H6: Uncertainty negatively relates to the livelihood success of the Samurdhi Beneficiaries in Sri Lanka*

**Assets specificity, transaction cost, and livelihood success:** Asset specificity can be a major factor influencing the transaction costs of any business (Glauco, et al., 2011; Williamson, 1985). The inability to easily non-re-deployable transaction-specific investments can cause problems for business entities and therefore generate potential costs on the need for protection (Dyer & Chu, 2003). Transaction partners are more troubled with protecting proprietary knowledge or technology from other business partners in the high asset specificity. When trading on asset specificity, it is necessary to plan and find trading methods in addition to the basic trading activities, which can lead to generation of TC as an additional cost (Furubotn & Richter 2010). When Samurdhi recipients are encouraged to be micro-entrepreneurs, they are directed to a specific production function. Microloans are also given to such specialized products, and training programs are also conducted to train them for particular production (Department of Samurdhi Development (DSD) 2017). Therefore, they are subject to asset specifications. As a result, they are less likely to replace their products and thus give into the opportunism of the raw material supplier as well as the buyer. To get rid of it, there are transaction costs for finding trusted people, entering into contracts, supervision, etc. Adding those costs to their product line reduces profits and impedes livelihood success. Thus, the study predicts that:

*H7: Asset specificity positively relates to the transaction cost of the Samurdhi Beneficiaries in Sri Lanka*

*H8: Asset specificity negatively relates to the livelihood success of the Samurdhi Beneficiaries in Sri Lanka*

**Transaction cost and livelihood success:** TC includes the cost before executing a transaction such as search cost, contracting cost, monitoring cost, and enforcement

cost that should be spent by the exchange parties and it will be added to the price of the production (Dyer, & Chu, 2003; Macher, & Richman, 2008; Williamson, 1985). TC reduces the performance of small industries because their profit margins are reduced by the TC, and its effect on the outcome of the business (Priyanath & Buthsala, 2017; Ranatunga et al., 2021b). Samurdhi beneficiaries engage in micro industries, and they suffer the effect of TC because of their bounded rationality in the face of uncertainty. Therefore, the study assumed that:

*H9: Transaction cost negatively relates to the livelihood success of the Samurdhi Beneficiaries in Sri Lanka*

**Mediator effect TC in the relationship between TC determinants and livelihood success:** This section explains the mediatory role of the TC in the relationship between transaction cost determinants and livelihood success. According to the hypotheses established in the above section, opportunism, bounded rationality, uncertainty, and asset specificity increase the TC of the micro industries of Samurdhi recipients. Samurdhi recipients have to incur additional costs based on the opportunism of other parties in making their livelihoods as micro-entrepreneurs. Although the additional costs are due to this opportunism, the parties act opportunistically because the Samurdhi recipients have limited rationality, they face uncertainty over individual behaviour and the environment, and their industry is directly or indirectly equipped with specific assets. These additional costs reduce the success of the Samurdhi recipients' livelihood activities. Additional costs include finding trusted business partners, maintaining contracts with them, checking whether they are doing the right thing, or otherwise influencing them. These can be taken as transaction costs as a mediating variable. Accordingly, transaction cost determinants have a negative impact on livelihood success, and transaction costs as a mediating variable exacerbate that negative impact. Therefore, this study assumes that:

*H10: Transaction cost has a mediating role in the relationship between opportunism and livelihood success of Samurdhi Beneficiaries in Sri Lanka*

*H11: Transaction cost has a mediating role in the relationship between bounded rationality and livelihood success of Samurdhi Beneficiaries in Sri Lanka*

*H12: Transaction cost has a mediating role in the relationship between uncertainty and livelihood success of Samurdhi Beneficiaries in Sri Lanka*

*H13: Transaction cost has a mediating role in the relationship between asset specificity and livelihood success of Samurdhi Beneficiaries in Sri Lanka*

The study focused on three theoretical aspects: TC determinants, TC, and livelihood success. TC determinants comprise four features: opportunism, bounded rationality, uncertainty, and asset specificity, and these four features act as the independent

variable of the model. According to the research objectives, research is expected to examine the relationship between these determinants and the livelihood success of the Samurdhi Beneficiaries in Sri Lanka. Therefore, livelihood success is considered the dependent variable, while TC is the mediating variable between TC determinants and the livelihood success of the Samurdhi Beneficiaries in Sri Lanka. According to the conceptual framework, 13 hypothetical relationships can be established between these variables, and Figure 01 depicts these associations among variables.

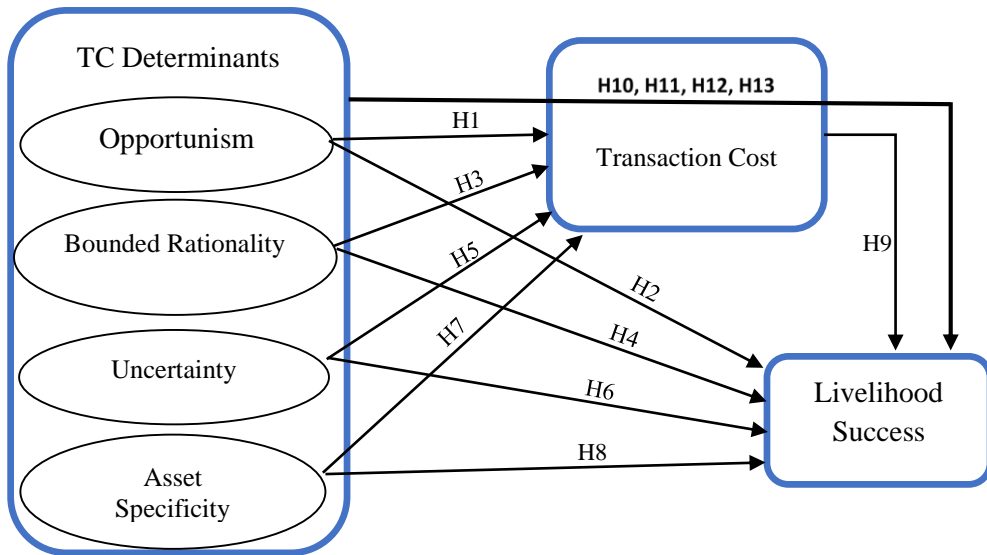


Figure 01: Conceptual Framework

#### 4. Methodology

Three components of the theories have been combined to solve the research problem through conceptually constructed relationships, and therefore the deduction approach has been used, thus the method is quantitative. The study selected Samurdhi beneficiaries as the unit of analysis in two provinces of Sri Lanka, Sabaragamuwa and Uva, as two clusters. All Divisional Secretariats were selected within these two provinces. The list of all members of each province engaged in income-generating activities obtained from the Department of Samurdhi Development was taken as the sample frame. Simple random sampling was utilized to select two villages from each DS Division and selected all Samurdhi beneficiaries engaging in income-generating activities as a cluster. The sample consisted of 1820 beneficiaries (Sabaragamuwa 1120, Uva 700). A systematically designed structured questionnaire administered by an enumerator to the individual respondents in the sample, was employed as the data collection tool.

Opportunism has been measured as buyer and supplier opportunism on examining dishonesty in dealings, cheating in dealing, less sincerity in dealing, overestimation, breach of agreement, and unreasonable bargaining when doing the transactions (Priyanath, 2017; Ranatunga et al., 2021c; Rokkan, et al, 2003). Bounded rationality, which is mainly concerned with information limitation, has been operationalized according to the three major themes: limitations in accessing information, assessing information, and the capability to make good decisions on such information (Priyanath, 2017; Ranatunga et al., 2021b). Uncertainty is measured as environmental and behavioural. According to the study context, environmental uncertainty is measured on technological demand and supply. Demand and supply uncertainty is measured by employing four items each, and technological uncertainty depends on the skills and application changes and is measured using two items (Chen & Chen, 2003; John & Weitz 1988; Ranatunga et al., 2020). According to Chen and Chen (2003), Kamyabi and Devi (2011), and Ranatunga et al. (2020), behavioural uncertainty is measured by employing another two items evaluating the performance of transaction parties and evaluating the risk of opportunism. Asset specificity refers to the investment in physical and human capital that is transaction-specific and loses value in other uses. According to Brouthers, et al. (2003), David and Han (2004), and Rindfleisch and Heide (1997), three aspects utilized to operationalize assets specificity include site-specificity, physical assets specificity, and human asset specificity. TC has operationalized by identifying costs related to the search for a party with whom to transact, costs incurred on making negotiations between exchange partners, the cost of monitoring the performance of the supplier, and addressing problems that might arise in the relationship with the supplier (Christian et al., 2011; Nguyen and Crase, 2011; Priyanath, 2017). Livelihood success was measured based on five dimensions, including physical capital, human capital, financial capital, natural capital, and social capital (Gunasekara et al., 2017).

According to the conceptual framework, Partial Least Square - Structural Equation Modelling (PLS-SEM) was recognized as the most appropriate analysis technique for multiple independent and dependent variables. The study used this technique, and the reliability and validity tests and the efficiency of the model was examined by multicollinearity issues,  $R^2$ , effect size ( $f^2$ ), and predictive relevance ( $Q^2$ ). The SmartPLS (version 3.0) software is used to analyse data.

## **5. Results and discussion**

Considering the sample characteristics, out of the 1820 respondents, the majority (68.85%) were female while 31.16% were males. The descriptive data exhibited that the majority (72.1%) of respondents were aged between 40 and 69 years, 19.8% were between 30 and 39, 2.9% were below 29, and 5% were above 70 years. Furthermore, the marital status of respondents shows that 94.67% were married, 2.09% of

respondents were unmarried, and 3.24% were widows. In terms of education, 5.33% of the respondents were without any formal education. The most represented 60.44% of educational levels were those have studied up to the Ordinary and Advanced levels. This was followed by eight respondents representing 0.44% who were with bachelor's degrees. The majority of respondents 75.99% earned less than LKR 20,000 monthly income; 18.85% earned between LKR 20,000 - 40,000 monthly income; 4.51%, earned above LKR 40,000 monthly income.

Evaluating the validity and reliability of the measurement model are two factors that need to be considered in depth when obtaining the results of data analysis in PLS-SEM (Hair et al., 2012; Thatcher, 2010). Evaluation of reliability consists of indicator reliability and internal consistency reliability. Similarly, examining the measurement model's validity depends on convergent and discriminant validity (Hair et al., 2014). Appendix 01 shows the result of 17 first-order endogenous latent variables used in the study. Since the standardized factor loading values exceed the minimum threshold criterion of 0.7, those variables reached the indicator reliability at a statistically significant level of 0.05. Cronbach's alpha ( $\alpha$ ) and composite reliability were used to examine the internal consistency reliability, and, all indicators exceeded the threshold of 0.7 and confirmed the reliability. Average Variance Extracted (AVE) has been utilized to evaluate the convergent validity of the first-order constructs and all the AVE values of indicators are above the threshold of 0.5. Therefore, the first-order indicators satisfied the convergent validity.

The next step is expected to examine the discriminant validity, and according to Fornell and Larcker (1981), the square root of AVE in each latent variable is utilized. All inter-construct correlation values are lower than the square root of the AVE values. It indicated that the Six latent variables applied to the second-order had been formed in the first-order structural model.

Six second-order constructs were formulated on the latent variable scores of the first-order constructs, namely, Assets Specificity, Livelihoods, Opportunism, Rational Ability, Transaction Cost, and Uncertainty. Factor loadings which are higher than 0.7, and their t-statistics also significant at 0.05 level. Cronbach's  $\alpha$  and composite reliability evaluations are also greater than the recommended value of 0.7 on all constructs, and it indicates that those constructs obtained internal consistency reliability. All the AVE values are higher than 0.5. It depicts the second-order construct endorsed by the convergent validity. The study evaluated the discriminant validity of the second-order constructs. Square roots of all the AVE values are higher than the inter-construct correlation values, and it satisfies the criterion of the discriminant validity of the second-order constructs.

According to the given guideline by Hair et al (2014), the inner model was evaluated. First, collinearity issues are analysed, and VIF values are lower than the recommended value of 5. The tolerance levels are also greater than the recommended value of 0.2, and it depicts that the model does not contain any multicollinearity issues between the constructs.

Secondly, the PLS bootstrap process was used to assess the significance of the path coefficient ( $\beta$ ) values and t-statistics to identify the effect of TC determinants on TC and the livelihoods of Samurdhi beneficiaries. The estimated t-value should be larger than 1.65 for a significance level of 90%, 1.96 for a significance level of 95%, and 2.58 for a significance level of 99% in a two-tailed t-test (Hair et al., 2014). Table 01 reveals the results of the analysis. Eight out of the nine hypothesized relationships can be accepted.

**Table 01: Path Coefficient and Significance**

	<b>Relationship</b>	<b>Beta</b>	<b>t Statistics</b>	<b>Decision</b>
<b>H<sub>1</sub></b>	Opportunism -> TC	0.378	16.554	Accepted
<b>H<sub>2</sub></b>	Opportunism -> Livelihoods	-0.190	11.456	Accepted
<b>H<sub>3</sub></b>	Bounded Rationality -> TC	-0.200	10.599	Accepted
<b>H<sub>4</sub></b>	Bounded Rationality -> Livelihoods	0.532	31.875	Accepted
<b>H<sub>5</sub></b>	Uncertainty -> TC	0.288	12.905	Accepted
<b>H<sub>6</sub></b>	Uncertainty -> Livelihoods	-0.071	4.623	Accepted
<b>H<sub>7</sub></b>	Assets Specificity -> TC	0.037	1.509	Not Accepted
<b>H<sub>8</sub></b>	Assets Specificity -> Livelihoods	-0.076	4.250	Accepted
<b>H<sub>9</sub></b>	TC -> Livelihoods	-0.224	12.414	Accepted

Source: Survey data, 2021.

The third step is reserved for evaluating the correlation between independent and dependent variables (Hair et al., 2014). According to the given criteria, the model contains  $R^2$  as 0.67, 0.33, and 0.19 are considered substantial, moderate, and weak, respectively. The relationship between TC determinants and the Livelihood success



of Samurdhi Beneficiaries includes 0.671 (substantial), and the relationship between TC Determinants and TC contains 0.458 (moderate) correlations. Finally, another two steps were employed to determine the effect size and the predictive relevance of the TC Determinants and TC on all dimensions, according to Cohen (1988) and Chin (1998). These variables obtained large explanatory power. The bootstrapping of the indirect path in Smart PLS-3 has been conducted to evaluate the mediating role of TC in the relationship between TC determinants and livelihood success. Table 02 shows that the TC has a partial mediating role.

**Table 02: Mediating Role of TC**

<b>Hypothesis</b>	<b>Beta</b>	<b>t Statistics</b>	<b>P Values</b>	<b>Decision</b>
Assets Specificity - > TC -> Livelihood Success	-0.008	1.875	0.061	No mediation
Opportunism -> TC -> Livelihood Success	-0.085	9.327	0.000	Partial Mediation
Uncertainty -> TC - > Livelihood Success	-0.065	9.509	0.000	Partial Mediation
Bounded rationality -> TC -> Livelihood Success	-0.045	8.172	0.000	Partial Mediation

Source: Survey data, 2021.

The study predicts opportunism has a positive impact on the TC of Samurdhi beneficiaries and a negative impact on their livelihood success. The result exposed that opportunism makes a significant impact on increasing the TC of Samurdhi beneficiaries ( $\beta = 0.378$  and  $t\text{-value} = 16.554$ ). Opportunism reduces their livelihood success by 19.0% ( $\beta = -0.190$  and  $t\text{-value} = 11.456$ ). Therefore, H1 and H2 hypotheses were accepted. Although it is difficult to find similar studies done in this regard, according to Ranatunga et al. (2021a), opportunism negatively impacts the performance of Small and Medium Scale Industries in Sri Lanka by 23.0% ( $\beta = -0.230$  and  $t\text{-value} = 1.831$ ). Samurdhi beneficiaries are involved in micro-level livelihood activities, and the findings are relatively accepted. The result revealed that Samurdhi beneficiaries suffer the hazard from the opportunistic behaviour of exchange partners that discourage livelihood improvement by increasing TC.

The effect of bounded rationality on transaction cost and livelihood success of Samurdhi beneficiaries has been tested under H3 and H4 hypotheses. According to the results mentioned in Table 06, bounded rationality positively affects TC by 20%

( $\beta = 0.200$  and  $t\text{-value} = 10.599$ ), and the H3 hypothesis can be accepted. This result proved the recently conducted similar studies (Priyanath & Premarathne, 2017; Ranatunga et al., 2021b). Subsequently, the H4 hypothesis can also be accepted because bounded rationality significantly reduces livelihood success by 53.2% ( $\beta = 0.532$  and  $t\text{-value} = 31.875$ ). Studies on the direct relationship between bounded rationality and livelihood success cannot be obtained from the past literature. Few similar studies have been conducted in the Sri Lankan context. Priyanath and Butsala (2017) mentioned that rational ability, which is the opposite of bounded rationality, has a significant positive impact on the performance of Small Industries in Sri Lanka. According to Ranatunga et al. (2021b) who revealed similar situations in Small and Medium Scale Industries in Sri Lanka, bounded rationality has a negative impact ( $\beta = -0.152$  and  $t\text{-value} = 1.795$ ) on performance. Samurdhi beneficiaries are low-income people with a low level of education and are mostly employed traditionally. This study underlines that traditionally, they have solely relied on buyers or sellers to manage their micro-level livelihood activities and could not acquire the knowledge needed to step out of that structure. As mentioned above, opportunism also has a counterproductive effect on developing these micro-level livelihood activities. That increase is also greatly influenced by bounded rationality.

Hypotheses H5 and H6 established the relationship between uncertainty and TC and uncertainty and livelihood success of Samurdhi beneficiaries, respectively. Results obtained in the study depicted that uncertainty can impact 28.8% to increase TC of Samurdhi beneficiaries ( $\beta = 0.288$  and  $t\text{-value} = 12.905$ ). According to the results, uncertainty has an insignificant influence on livelihood success as negative 7.1% ( $\beta = -0.071$  and  $t\text{-value} = 4.623$ ), which is an acceptable relationship. Therefore, uncertainty has a significant effect on the livelihood success of Samurdhi beneficiaries. The influence of asset specificity on both TC and livelihood success has been explored in H7 and H8 hypotheses. Hypothesis H7 was rejected since the  $t\text{-value}$  is below the required threshold ( $\beta = -0.037$  and  $t\text{-value} = 1.590$ ). However, Hypothesis H8 has been accepted since its coefficient is  $-0.076$  and the  $t\text{-value}$  is 4.250. The study of asset specificity on livelihood success has not been studied in the past literature, especially in such micro-level livelihood activities. These micro-level livelihood activities do not depend on adequate specific assets, and mostly they have fewer and predetermined opportunities according to the government requirements for means of living (Carney 2003). The government instructs them to conduct their livelihood activities regularly, and no opportunity cost appears when they switch business activities. Especially most of them act as farmers in the agricultural sector, and they have more opportunities to use their land and human capital without spending more cost. On the other hand, most of them rely on the same buyer (government organization) as well as on the same supplier.

The H9 hypothesis concerned the effect of TC on the livelihood success of Samurdhi beneficiaries. TC has a 28.8% negative impact on livelihood success ( $\beta = -0.288$  and  $t\text{-value} = 12.905$ ). This study establishes the results obtained by Priyanath and Habaragamuwa (2020) who found that TC has a 75.5% powerful negative effect on livelihood success. However, Priyanath and Lakshika (2020) mentioned that though TC has a negative impact, it does not significantly affect livelihood success in the Sri Lankan context.

Further, to reinforce the study findings, Table 02 analyses mediating effect of TC among the determinants and livelihood success. It represents that TC acts as a significant partial mediator between opportunism and livelihood success ( $t\text{-value} = 9.327$ ). The mediating role of TC between bounded rational and livelihood success also has been assessed. Hence, Table 02 shows that there is a significant partial mediating effect of TC between bounded rationality and livelihood success ( $t\text{-value} = 8.172$ ). Finally, the mediating effect of TC between uncertainty and livelihood success has been analysed. Table 02 generated data supported to reveal that there is partial mediating of TC between uncertainty and livelihood success ( $t\text{-value} 9.509$ ). However, according to the results, it is proved that the TC formed with the major determinants such as opportunism, bounded rationality, and uncertainty generate negative influences on means of livelihoods, and the TC acts as a mediating role between several determinants (opportunism, bounded rationality and uncertainty) and the livelihood success among the Samurdhi beneficiaries.

## **6. Conclusion**

This research aims to study the impact of TC determinants on the livelihood success of Samurdhi beneficiaries. Thirteen hypothetical relationships were established in the conceptual design to understand the direct relationship and the mediating effect. According to the results, 11 hypotheses have been accepted, and the other two are rejected. Uncertainty and asset specificity have made negligible effects though other determinants have a significant impact on the livelihood success of the Samurdhi beneficiaries. This study found that bounded rationality is the most important TC determinant factor in increasing Samurdhi beneficiaries' TC and reducing their livelihood success. It has a significantly higher negative impact on livelihood success as well as theoretically increases opportunism which again negatively affects livelihood success. This study depicts the empirical situation of the theoretical explanation of TC determinants on the Samurdhi beneficiaries. TC as the mediating variable also significantly reduces livelihood success. It tends to intensify the negative effect of TC determinants on livelihood success except for asset specificity.

The study uses two theoretical concepts as transaction cost economics and sustainable livelihood to achieve the research objective. It uses a substantially higher sample size

for the empirical investigation. These research designs and empirical findings are especially unique in two aspects. First, the past literature has not empirically investigated the TC determinant factors on livelihood success. The latter is that although the effect of TC on livelihood success has been studied in the context of government-aided recipients, its mediating effect has been studied in very few studies. Thus, this research provides a higher empirical contribution to the research literature.

This study reveals that policymakers can gain valuable insights by minimizing bounded rationality by facilitating them with proper information channels to minimize TC in the livelihood activities of Samurdhi beneficiaries. Consequently, it can be used to reduce the influence created by both supplier and buyer opportunism suffered by the Samurdhi beneficiaries. Traditionally, the information channels of these people depend on a few contacts. Therefore, they always try to survive their livelihood activities with these few contacts, regardless of whether they are profitable. This approach must be changed, and the government must open up more opportunities to release the bondage that results from intermediate actions. Thus, policymakers need to expand these channels to fill the information gap in addition to providing them with financial benefits. Further, to help increase these people's rationality, government authorities are recommended to establish common centres to inform them of the market, suppliers, buyers, and other stakeholders. Further, the study enables the policymakers and Samurdhi beneficiaries to develop strategies to mitigate TC by improving the rational ability and transaction frequency, both helping to avoid the opportunistic behaviour of exchange partners and decreasing the transaction uncertainty that leads to improving the livelihoods of Samurdhi beneficiaries.

This research operationalized the independent variable, TC determinants, as four dimensions and transaction frequency have not been tested in the relationships. It has not been empirically tested previously in the domain of low-income micro industries. As a point of departure, researchers can further apply the used indicators contextually, according to the development of micro industries. The research was conducted in the Asian region, especially in developing countries where sustainable livelihood success is widely used, hence, different regions with different educational, social, and cultural milieus can be researched to arrive at more specific conclusions.

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