

## Social Capital, Transaction Cost and Livelihood Success: A case of Samurdhi Community Based Organization in Sri Lanka

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**Abstract:** This study attempted to investigate empirically how Social Capital (SC) affects the Transaction Cost (TC) and then livelihood success particularly members of Community Based Organizations (CBOs) in Sri Lanka. The data were collected from 174 of members of the Samurdhi CBO, the major poverty alleviation program in Sri Lanka, using structural questionnaire having face-to-face interviews. Partial Least Square Structural Equation Modeling (PLS-SEM) was used to analyze data. The results reveal that network relationship has a significant negative impact on mitigating Transaction Cost (TC). Inter-personal trust and relational norms positively affects the TC and livelihood success. Cognitive capital has a significant positive relationship with livelihood success but no significant relationship with TC. The study recommends the members of CBOs to devote time and resources to strength SC developing more network relationship with different network (local and international) which increases livelihood by mitigating TC. The study extends the understanding about the relative efficacy of SC, TC theories into a different social and economic context. The empirical results provide sufficient evidence to recognize the strength of social mechanism as the governing strategy of TC and livelihoods.

**Keywords:** Community Based Organization, Social Capital, Sustainable Livelihoods, Transaction Cost

### 1. Introduction

‘*Samurdhi*’ program is the largest government funded poverty alleviation program in Sri Lanka introduced in 1995 (Damayanthi& Champika, 2014). Sri Lankan government allocates 01 percent of GDP and 4.5 percent of the national budget to implement the activities of the *Samurdhi* program (Damayanthi& Champika, 2014). Main objective of the *Samurdhi* program is to eradicate poverty ensuring social justice through community-based livelihood development activities. To achieve this aim, the *Samurdhi* program implements different livelihood development programs focusing low income group by encouraging savings and credits for entrepreneurial and business development and improving community infrastructure through workfare and social development programs (Edirisinghe, 2018). *Samurdhi* beneficiaries are encouraged to start a any livelihood development activity relating to agriculture, livestock, fisheries, industries and services and necessary support including credit, advices are provided by the Department of *Samurdhi* Development. All those livelihood development activities are being performed with full participation of *Samurdhi* Community-Based Organization (CBO) (Department of Samurdhi Development, 2017).

Balatti& Falk (2002) highlighted that Community Based Organizations (CBOs) lead to generate Social Capital (SC) among members. Because, the relationship among members develops through frequent interaction, relational qualities including interpersonal trust and relational norms, collaborations, collective action among members develop with mutual understand (Abban et al., 2013; Adler & Kwon, 2002; Burt, 1992; Granovetter, 1985; Nahapiet& Ghoshal, 1998). Such qualities and values are the accumulated assets which cannot be purchased from open market (Priyanath& Premaratne, 2015b). Resources that generate due the pattern of relationships, qualities of relationship and the common understand among members are called Social Capital (SC) (Abban et al., 2013; Burt, 1992; Granovetter, 1985; Nahapiet& Ghoshal, 1998).

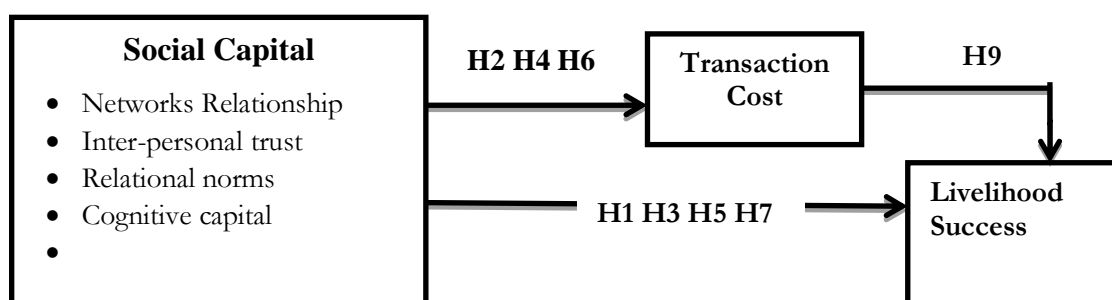
The key benefit of SC is that it facilitates to reach information and increases information's quality and relevance (Adler and Kwon, 2002). SC facilitates to access information reducing information asymmetric (Bwalya et al., 2013; Priyanto et al., 2014) and helps producers to mitigate information asymmetric enabling to access information which allows to improve rational ability of the focal firm and mitigate the opportunism of exchange partners (Henningsen and Henning, 2013; Richman, 2006). Thus, with a heated discussion worldwide about SC, many scholars have a tendency to examine empirically the role of SC on TC. Some researchers discussed that the trusts among businesses are associated with Transaction Cost (TC) and a few researchers analyzed the relationship between the network relationships and the TC (Dyer and Chu, 2003; Gulati, 1995; Uzzi, 1997). Fussell et al. (2006) reveal that there was a significant association between SC and TC and the SC components (access information and network ties) were significantly associated to mitigate TC. Jones, Hesterly and Borgatti (1997) explained how social mechanisms have an influence on the decrease of TC. Carney (1998) presents a synthesis of social network and TC on production network and stress the importance of network on TC of business firm. Bromiley and Harris (2006) explain that inter-firm trust positively affects the decrease of TC.

However, a complete empirical work particularly members of CBOs in Sri Lanka pertaining to examine how SC affects the TC and livelihood success, represents a significant gap in the literature. The current study attempts to bridge this gap studying empirically how SC affects the TC and livelihood success particularly members of *Samurshi* CBO in Sri Lanka. The rest of the paper is organized as follows. The next section briefly reviews the theoretical background for key variable i.e. SC, TC and livelihood success. Then conceptual research framework followed by hypotheses developed combining theories is presented. In the next section, the research methodology is discussed including the research approach, sample, measurements and analyzing techniques. This is followed by hypothesis testing with the use of partial least square structural equation modeling. Then results are presented and discussed the results comparing results of other empirical studies. The paper concludes by highlighting key findings and contributions and identifying some policy implications.

## 2. Literature and Hypotheses

In this study, SC acts as the independent variable which consists of four dimensions as network strength, inter-personal trust, relational norms and cognitive capital. Livelihood success becomes dependent variable. The study explored the association among each dimension of SC with livelihoods success of the members of CBO. TC performs as mediate variable between SC and livelihood success and explains direct relationship among SC, TC and livelihood success. Conceptual framework of this study is presented in figure 01 below. Based on the conceptual framework; the study constructed nine hypotheses connecting with those variables.

Figure 1: Conceptual Framework



Source: Developed by Author, 2020.

**Network Relationship and Livelihood Success:** Network relationship is useful and significantly affects livelihood success of the members of community-based organization (Tran, 2015). Members can access and evaluate information which improve livelihood (Gunasekara, Premaratne & Priyanath, 2017). Tran (2015) highlighted that households with more extensive social networks have higher level of employment and income and less significant economic shocks. Tran (2015) further explained that building community social ties with family, friends, and organizations are an essential part of successful household livelihoods and social development.

However, some studies used network as a concept of bonding capital which leads to enhance sustainable livelihoods of rural poor (Jacobs, 2009; Misra, Goswami, Basu& Jana, 2014) and social network leads to enhance livelihood capitals in smallholder farmers (Abenakyo et al., 2007). Social networks play an important role in facilitating exchange of assistance and support for people, even when they have limited access to other resources (e.g., financial, natural, physical), in order to address social and economic problems, specifically livelihood insecurity (Tran, 2015). Thus, different studies confirm that network relationships have an influence on livelihood success. Hence, the study proposes the following hypothesis;

**H1: Network relationship positively associates with livelihood success of Samurdhi beneficiaries in Sri Lanka.**

**Network Relationship and TC:** Network ties mitigate information asymmetry, enhance rational decision making, mitigate opportunity and cause to minimize both ex-ante and ex-post TC (Priyanath, 2017). Network relationship also helps to create verbal agreement which don't require any TC among actors (Priyanath & Premaratne, 2015a). Fussell et al (2006) have revealed that network ties also have significant impact on TC and organizational outcomes. Yenidogan(2013) explained that network leads to reduce searching cost since the network supplies low cost, quick and reliable information which affect the decrease of TC in two ways. First, network enables to gather superior information (Gulati, 1995) and helps exchange information among network members and facilitate to acquire information in correct time with minimum costs (Priyanath & Premaratne; 2017b). Second, network relationship is important source of recommendations that the member can identify potential exchange partners and learn about each other's reliabilities (Priyanath & Premaratne; 2017b). Network members introduce and recommend reliable customers and suppliers to the other members that affect the increase of market share without making advertising costs (Priyanath & Premaratne, 2015b). Thus, network structure facilitates to reduce the information costs providing low cost information about exchange partners and their reliabilities that lead to decrease TC (Priyanath, 2017; Yenidogan, 2013). Thus, network facilitates to obtain values though enhancing performance and reducing TC (Tsai & Ghoshal, 1998; Nahapiet& Ghoshal, 1998). Therefore, the study hypothesizes that;

**H2: Network relationship negatively associates with TC of Samurdhi beneficiaries in Sri Lanka.**

**Inter-personal trust and sustainable livelihoods:** Trust in the personal level consider as an emotional bond which build strengths and support for relations (Svensson, 2004). As in literature, trust leads to enhance sustainable livelihoods through accessing for information and resources. Woolcock and Narayan (2000) explained that inter-personal trust has a positive effect on household welfare. These studies show that households (particularly the poor ones) draw additional resources that enables them meet every day needs through social connections thus, the reciprocal relationships serve as wells of financial, social, or political support from which they can draw during times of need. Furthermore, Grootaert, Oh &Swammy(2002) found that households with active ties in local associations (rich in trust) have better access to credit. Sometimes trust also plays for collaboration and to obtain mutual benefits (Abenakyo et al., 2007). Trust for livelihood is measured through household activities (production of livestock, value of crop production and revenue from non-farm activities). Previous researchers have stated that SC including trust make positive relationship with household welfare especially in rural poor (Grootaert et al., 2002; Woolcock & Narayan, 2000). Inter-personal trust becomes one of important factor among businesses in order to mitigate TC. Therefore, the study proposes that;

**H3: Inter-personal trust positively associates with sustainable livelihoods of Samurdhi beneficiaries in Sri Lanka.**

**Inter-personal trust and TC:** According to Zaheer et al (1998) if inter-personal trust is high, problems within the partners solves cooperatively. With the strong relationships, negotiations are less costly under conditions of high inter-personal trust because agreements are reached more quickly and easily (Priyanath & Premaratne, 2017c; Zaheer et al., 1998). When unforeseen contingencies arise from external environment, such as costs not explicitly covered by the terms of a contract, high levels of trust facilitate the development of a common understanding about the contingencies and it facilitates to solve such in a cooperative manner (Priyanath & Premaratne, 2017c; Zaheer et al., 1998). In addition, negotiations will likely be more efficient because partner will have greater confidence that information provided by the other partner is accurate (Dyer, 1997). Under conditions of high trust, trading partners will spend less time and resources on monitoring to see if the other party is fulfilling the

conditions of the agreement (Priyanath & Premaratne, 2017a). If each exchange partner is confident that the other party will not be opportunistic, then both parties can devote fewer resources to monitoring (Priyanath, Jayasinghe & Premaratne, 2016b). If trust is high then each party will assume that the other party is acting in good faith and will interpret behaviors more positively (Uzzi, 1997). Empirical results have shown that trust was negatively associated with monitoring and enforcement costs (Dyer & Chu, 2003) and negotiation costs (Zaheer et al., 1998). If there is a collective goal for any organization, members behave towards trusting each other without self-interest activities (Miller, Besser & Weber, 2007). Thus, inter-personal trust leads to mitigate TC sharing information (Priyanath & Premaratne, 2017c). Therefore, the study assumes that;

#### **H4: Inter-personal trust negatively associates with TC of Samurdhi beneficiaries in Sri Lanka.**

**Relational Norms and livelihood Success:** Hlormdor (2015) argued that relational norms among people exist in rural areas plentifully and explained how relational norms affect livelihood success of rural community. Some researchers have argued that relational norms are helpful for collective action and finally leads to livelihood success (Woolcok, 1998). Relational norms contribute to success any sustainable livelihoods projects. Scholars generally agree that increasing the relational norms encourages cooperation between parties and thereby discourage opportunistic behavior (Noordeweir et al., 1990). Solidarity also cause exchange partners to be more supportive and cooperative towards each other (Paswan and Young, 1999). Further, Paswan and Young (1999) suggested that if role integrity exists in a business relationship, formal rules are not required. From this proposition it is possible to understand that role integrity has an inverse relationship with opportunism. Thus, various dimensions of relational norms provide high level of outcomes for people and those norms lead to improve livelihood and well-being (Anderson & Weitz, 1992). Hence, the study proposes;

#### **H5: Relational norms positively associates with sustainable livelihoods of Samurdhi beneficiaries in Sri Lanka.**

**Relational Norms and TC:** Many scholars have studied that how relational norms mitigate TC (Heide & John, 1992; Paswan & Young, 1999). Relational norms also act as a safeguard against the elements of TC such as opportunism and uncertainty (Dwyer, Paul & Oh, 1987; Gamage & Priyanath, 2019). Norms of solidarity also supports partners to work cooperatively each other to reduce negotiation costs (Jap & Ganesan, 2000) and enforcement costs (Kaufmann & Stern, 1992) while enhancing performance. Norms of flexibility also reduce ex-ante and ex-post contracting costs and enforcement costs (Heide & John, 1992). Therefore, relational norms have ability to mitigate TC (Priyanath, Jayasinghe & Premaratne, 2016a). Solidarity lead channel partners to believe that their exchange partner is committed to the relationship. Due to this belief, they would not make much attempt to protect their interests through negotiation. Hence, solidarity reduces negotiation costs (Jap and Ganesan, 2000). Under role integrity exchange partners believe the other correctly performs all of his responsibilities (Kaufmann and Dant, 1992). This would lower monitoring costs. Under role integrity, exchange parties perform their role satisfactorily (Kaufmann and Dant, 1992). When reciprocity exists, channel partners believe close inspection of each and every transaction separately damages the friendship. Hence, they do not monitor each and every transaction to make sure if the other party has performed as expected (Kaufmann and Dant, 1992). As a result, monitoring costs decrease. In this way, as exchange parties do not pursue every little mistake of their exchange partner, enforcement costs decrease. Thus, relational norms lead to minimize TC. Therefore, the study hypothesizes that;

#### **H6: Relational norms negatively associates with TC of Samurdhi beneficiaries in Sri Lanka.**

**Cognitive Capital and Livelihood Success:** Cognitive capital (shared vision, goals and knowledge) arise same beliefs and perspectives with each other (Carey, Macdonell & Matyas, 2011). Therefore, common understanding and development of collective beliefs would help coordination among members and development of relationship. SC including cognitive capital helps to enhance sustainable livelihoods because network members play a vital role in facilitating processes of knowledge sharing and learning among members. When network members have the same perceptions about their mutual success for an example, they avoid their possible opportunism and have supported each other exchanging their ideas, opinions and resources very freely to enhance their livelihoods (Tsai and Ghoshal, 1998). With common understanding, network members are motivated to trust one another, as they can expect that they all work for collective goals and will not be hurt by any other member's pursuit of self-interest (opportunistic behavior) (Miller et al., 2007). Thus, common understanding provides the harmony of

interest that erases the possibility of opportunistic behavior (Tsai and Ghoshal, 1998). Cognitive capital also helps to create knowledge and innovation also which finally affect to enhance livelihood. Further it leads to sustain livelihood with more income. Cognitive social relations become important for mutual benefits in a collective action (Krishna & Uphoff, 1999). Therefore, the study assumes that;

**H7: Cognitive capital positively associates with sustainable livelihoods of Samurdhi beneficiaries in Sri Lanka.**

**Cognitive Capital and TC:** Common understand among network members are considered as the force that holds people together and lets them share what they know (Chow and Chan, 2008). Thus, common understanding facilitates to mitigate contact costs enabling them to share information. Mutual understanding among network members leads to avoid the opportunistic behavior of exchange partners, business uncertainty and encourage sharing resources and opportunities with minimum negotiation cost (Chiu, Hsu and Wang, 2006). Thus, common understanding among network members affects the decrease of transaction costs. Personal knowledge as a cognitive capital becomes prominent in reducing cost. Shared vision as an important concept in cognitive SC explains common goals of actors in a network (Tsai & Ghoshal, 1998). It is very helpful to share information and reduce information asymmetry. Therefore, finally cognitive capital leads to minimize TC which may consists of ex-ante cost (searching and negotiation) and ex-post cost (monitoring and enforcement) (Priyanath & Premaratne, 2015a). Hence, the study hypothesises that;

**H8: Cognitive capital negatively associates with TC of Samurdhi beneficiaries in Sri Lanka.**

**TC and Sustainable Livelihoods:** TC may go high and it may significantly affect to the economic performance (Priyanath & Premaratna, 2017c; Priyanath, & Butsala, 2017) confirmed that a firm faced high transaction cost which discourages the firm's success. Yu, Zhu, & Chen (2015) found that the minimizing TC of households will increase their performance. Hennart (1993) mentioned if a firm minimize the TC, it has greater performance. TC and livelihood success have negative relationship.

**H9: TC negatively associates with sustainable livelihoods of Samurdhi beneficiaries in Sri Lanka.**

### 3. Materials and Methods

This study uses deductive approach testing relationship among SC theory, TC and sustainable livelihood to understand how SC affects TC and livelihood success. The study based on quantitative approach. Data was collected using survey method through a structural questionnaire. Population in this study is *Samurdhi* beneficiaries in Sri Lanka. *Samurdhi* beneficiaries in Gampaha District were selected as sample frame. This study uses multi-stage sampling method. According to that Gampaha District is selected randomly using simple random sampling method of lottery method among 25 Districts. There are 13 Divisional Secretariat (DS) divisions in Gampaha District. Among them, 2 DS divisions are selected randomly. Then one village is selected from each DS division randomly and all *Samurdhi* beneficiaries in two villages (i.e. Uruwala East from Mahara DS division and Weliveriya North from Gampaha DS division) are selected. Finally, all 174 *Samurdhi* beneficiaries in those two villages were selected as the sample.

Questionnaire was developed using several steps. Initially, questionnaire items have identified with support of literature. After identifying relevant questionnaire items, a draft of questionnaire was developed. Each question measures 7-point likert-scale. Before finalizing questionnaire, pilot test was conducted with twenty beneficiaries who were contacted easily in Gampaha District. Questionnaire divided into three parts. First part has included 7 questions with personal information of beneficiaries. Second part has included specific questions which consist with questions for SC including network relationship, inter-personal trust, relational norms and cognitive capital. Third part has included also specific questions for TC and then livelihood success.

Network relationship was measured using index developed by Lu, Feng, Trienekens & Omta, (2012) including close tie, interaction and period of time. Inter-personal trust is measured using credibility (Zaheer et al., 1998), ability (Dwyer, Paul & Oh, 1987) and benevolence (Gamage and Priyanath, 2019) under this study. Relational norms were measured using flexibility (Kaufmann & Stern, 1988; Noordewier, John & Nevin, 1990), role of integrity (Achrol & Gundlach, 1999; Paswan & Young, 1999), solidarity (Heide & John, 1992; Paswan & Young, 1999) and

information exchange (Noordeweir et al., 1990; Heide & John, 1992 ; Kaufman & Dant, 1992) under this study. Cognitive capital was using shared vision (Tsai & Ghoshal, 1998), shared languages (Aslam, Shanzad, Syed & Ramish, 2013) and shared knowledge (Hung, Lin & Chen, 2013).

Evaluation of measurements of the variables and hypothesis testing were done through Partial Least Square Structural Equation Modeling (PLS-SEM). Smart PLS version 3.2.8 was main software under analyzing of PLS-SEM. Under measurements of the variables, first order analysis and second order analysis were evaluated separately. First order analysis concern validity and reliability of the study were tested based on questionnaire items and indicators. Validity of constructs was measured through convergent validity and discriminant validity. Reliability assesses through indicator reliability and internal consistency reliability. If there is successful validity and reliability, it is good to fit second order analysis (final model). It also evaluates using validity and reliability among indicators and latent variables. Further co linearity, significance of path coefficients, coefficient of determination, effect size and predictive relevance are evaluated under hypothesis testing (inner model).

#### 4. Results and Discussions

According to table 01, outer loadings values of questionnaire items were higher than 0.7 which describes that all the constructs under first order analysis have indicator reliability. As well as all t-statistics values were significance at 95% significance level which means all values were higher than 1.96. Then it is clear that both tests satisfied the indicator reliability of constructs. When concerning internal consistency reliability, composite reliability and Cronbach’s alpha have calculated. Values in these two tests were higher than 0.7 in variables. Therefore, it can prove that strong internal consistency reliability exists in the model.

**Table 01: Reliability and Validity of Constructs (First Order Analysis)**

Construct	Loadings	T-Statistics	CR	α*	AVE
<b>Inter-personal trust</b>					
<b>Credibility</b>			<b>0.932</b>	<b>0.914</b>	<b>0.661</b>
Members are honest	0.768	17.964			
Members act fairly in all activities	0.814	31.519			
Members do not hurt me	0.838	31.270			
Members are flexible	0.795	29.293			
Members are trustworthy	0.821	23.179			
Members do not breach agreement	0.832	29.483			
<b>Benevolence</b>			<b>0.918</b>	<b>0.888</b>	<b>0.692</b>
Members give higher attention for my request	0.834	29.513			
Members sacrifice time, resources and energy to fulfil my requests	0.875	42.371			
Members help me when I face trouble/unexpected situation	0.848	36.999			
Members like to continue relationship with me	0.827	34.316			
I respect their support/advices	0.771	19.137			
<b>Ability</b>			<b>0.920</b>	<b>0.890</b>	<b>0.697</b>
Members are very active	0.814	24.295			
I can predict their actions	0.801	26.077			
I confidence about their talent.	0.889	47.768			
They share information and knowledge with me	0.891	54.384			
They work towards better outcomes	0.772	16.269			
<b>Relational norms</b>					

<b>Flexibility</b>			<b>0.907</b>	<b>0.863</b>	<b>0.709</b>
They are flexible in solving problems	0.840	31.205			
In unexpected situation, members are willing to change promises	0.867	40.252			
They understand my weaknesses	0.840	32.365			
<b>Role of integrity</b>			<b>0.909</b>	<b>0.866</b>	<b>0.714</b>
They solve problems cooperatively	0.812	24.800			
They don't cheat me at transaction	0.864	36.310			
They work honestly with me	0.880	39.650			
Members don't try to violate agreements/promises	0.821	25.663			
<b>Solidarity</b>			<b>0.930</b>	<b>0.906</b>	<b>0.727</b>
Members like to continue activities smoothly as they agree.	0.809	22.978			
Members work very honest and fair manner with my decisions	0.855	31.464			
Problems are solved through jointly	0.879	35.563			
Members like to work with long-term relationship	0.899	48.214			
<b>Information exchange</b>			<b>0.907</b>	<b>0.863</b>	<b>0.710</b>
Members provide useful information	0.787	23.639			
Members provide information which helps us to plan and organize my activities in advance	0.844	25.927			
Members support me providing confidential information that is important to my life	0.878	38.603			
Members always feedback regarding my performance	0.858	32.716			
<b>Cognitive capital</b>					
<b>Shared vision</b>			<b>0.903</b>	<b>0.857</b>	<b>0.701</b>
Members care about collective goal	0.812	24.952			
Members always like to share same ideas	0.812	28.974			
Members work with helping others always	0.886	43.286			
Members like to learn unknown things from others	0.837	29.780			
<b>Shared languages</b>			<b>0.895</b>	<b>0.765</b>	<b>0.810</b>
Members use one language in activities.	0.905	66.087			
Members use common words within the group.	0.895	44.375			
<b>Shared knowledge</b>			<b>0.902</b>	<b>0.836</b>	<b>0.754</b>
Members like to share new knowledge with me.	0.845	37.734			
If I am in a trouble, member have a common sense, to share knowledge and experience with me.	0.894	50.791			
Members work to share knowledge in effective way in order to enhance group productivities	0.865	36.333			
<b>Transaction cost</b>					
<b>Searching cost</b>			<b>0.932</b>	<b>0.913</b>	<b>0.697</b>
Spend money and time for advertise our products	0.826	31.763			
Spend money and time fortenderprocedures	0.863	37.444			
Spend labor cost to search new buyers and	0.858	40.360			

suppliers.					
Spend travelling cost to search about prices, inputs, buyers and suppliers.	0.842	35.251			
Spend communication cost to search about prices, inputs, buyers and suppliers.	0.760	20.701			
<b>Negotiation cost</b>			<b>0.921</b>	<b>0.893</b>	<b>0.701</b>
Spend money and time, when negotiating with buyers and suppliers expecting to reach transaction agreements	0.825	29.953			
Spend money to make payment for legal matters relating to transaction	0.792	26.430			
Spend labor cost to negotiate with buyers and suppliers to decide details relating to sales and purchases.	0.825	35.165			
Spend travelling cost to negotiate with buyers and suppliers to decide details relating to sales and purchases	0.873	43.048			
Spend communication cost to negotiate with buyers and suppliers to decide details relating to sales and purchases	0.843	38.305			
<b>Monitoring cost</b>			<b>0.922</b>	<b>0.887</b>	<b>0.748</b>
Spend money and time to monitor the selling and purchasing activities whether they are undertaken according to the agreements	0.798	26.617			
Spend labor cost to monitor the selling and purchasing activities whether they are undertaken according to the agreements	0.898	57.789			
Spend travelling cost to monitor the selling and purchasing activities whether they are undertaken according to the agreements	0.867	39.672			
Spend communication cost to monitor the selling and purchasing activities whether they are undertaken according to the agreements	0.894	50.105			
<b>Enforcement cost</b>			<b>0.936</b>	<b>0.909</b>	<b>0.786</b>
Spend a considerably higher amount of money to resolve transaction disputes	0.864	43.998			
Spend a considerably higher amount of labor cost and time to resolve transaction disputes	0.897	54.796			
Spend a considerably higher amount of travelling cost to resolve transaction disputes	0.905	61.690			
Spend a considerably higher amount of cost for communication to resolve transaction disputes	0.880	52.705			
<b>Sustainable livelihoods</b>					
<b>Economic and social well-being</b>			<b>0.941</b>	<b>0.928</b>	<b>0.666</b>
I am happy with improvement of my living condition	0.839	26.283			
I could reach a living condition with good physical and mental health in my life	0.849	34.538			
Prosperity of life had realized with group activities.	0.859	38.373			
It leads to high level of life satisfaction with community-based activities	0.827	28.238			
My income level had increased with community-	0.777	20.254			



based activities					
My savings and assets (land, furniture and businesses) had increased with community-based activities	0.832	26.757			
My basic needs of food, clothes and housing had achieved more precisely with community-based activities	0.809	22.515			
Sanitation requirements were improved with community-based activities	0.728	14.334			
<b>Reduction of vulnerability and resilience improvement</b>			<b>0.884</b>	<b>0.803</b>	<b>0.719</b>
I was safe economically	0.794	20.144			
I had equal chance in the society like other people with these community-based activities	0.888	44.288			
There was a capability to get benefits of community-based activities by maintaining uniform living condition.	0.857	34.046			
<b>Enhancement of food security</b>			<b>0.896</b>	<b>0.846</b>	<b>0.684</b>
There was a capability to achieve minimum food requirements with community-based activities	0.816	25.942			
Activities of groups helped to improve my nutrition level	0.868	39.892			
Activities of groups helped to enhance ability and knowledge about quality food	0.843	35.035			
Ability to clean drinking water was received with community-based activities	0.779	19.840			

$\alpha^*$  Cronbach's alpha

Source: Survey Data, 2019

Convergent validity was measured using Average Variance of Extracted (AVE). Values of AVE should be higher than 0.5 in order to say there is a convergent validity in the first order analysis. All values were higher than 0.5, then it can prove strong convergent validity in first order analysis (see table 01). Fornell & Larcker criteria (square root of AVE > correlation of other variables) is used to evaluate discriminant validity of the first order measurements and it sufficiently exists to say that discriminant validity was established.

According to table 02, it is clear that a higher indicator reliability and internal consistency reliability in indicators of second order analysis. Convergent validity also exists. Discriminant validity of second order analysis also was also sufficiently explained by Fornell-Larcker criterion.

**Table 02: Reliability and Validity of Constructs (Second Order Analysis)**

Construct	Loadings	T-Statistics	Composite Reliability	Cronbach's alpha	AVE
<b>Network strength</b>	1	0.0000	1.000	1.000	1.000
<b>Inter-personal trust</b>			0.966	0.948	0.905
Credibility	0.953	97.779			
Benevolence	0.952	102.005			
Ability	0.950	99.211			
<b>Relational norms</b>			0.965	0.951	0.872
Flexibility	0.939	80.881			

Role integrity	0.920	57.989			
Solidarity	0.944	89.221			
Information exchange	0.932	72.286			
<b>Cognitive capital</b>			0.934	0.894	0.825
Shared vision	0.935	80.180			
Shared languages	0.872	33.309			
Shared knowledge	0.917	54.255			
<b>Transaction cost</b>			0.966	0.953	0.875
Searching cost	0.942	93.097			
Negotiation cost	0.935	73.870			
Monitoring cost	0.942	99.844			
Enforcement cost	0.923	50.443			
<b>Sustainable livelihoods</b>			0.957	0.932	0.881
Economic and social wellbeing	0.950	86.739			
Reduction of vulnerability and resilience improvement	0.933	65.606			
Enhancement of food security	0.933	72.136			

Source: Survey Data, 2019.

The results of the structural model were assessed using steps recommended by Hair et al. (2014). The study initially assesses co linearity issues in structural model. VIF values for all path show minimal co linearity, ranging from 1.15 to 8.44. These values are significantly less than the recommended threshold value of 10. The tolerance levels range from 0.371 to 0.866 exceeding 0.20. This indicates an absence of multi-co linearity between the independent constructs and the dependent constructs in the structural model. Then, the significant of the path coefficients is estimated to decide the effect of SC on TC and livelihood success. Each path relationship presents the regression coefficient ( $\beta$ ). T-statistics, which was obtained using PLS bootstrap process, is used to evaluate the significance of the path coefficient ( $\beta$ ). The study tested empirically 9 hypothetical relationships among the SC, TC and livelihood success. In view of both paths' coefficients and t-statistics, 06 hypothetical relationships were significant as presented in table 03. According to that, H2, H3, H4, H5, H6 and H7 hypotheses were accepted at 95% significance level.

**Table 03: Path Coefficients and Significance**

H	Relationship	Path coefficients	T-statistics	Results
H1	Network relationship-> SL	0.006	0.187	Not supported
H2	Network relationship -> TC	-0.106	2.321**	<b>Supported</b>
H3	Inter-personal trust->SL	0.324	2.847**	<b>Supported</b>
H4	Inter-personal trust->TC	-0.149	1.734*	<b>Supported</b>
H5	Relational norms->SL	0.249	2.178**	<b>Supported</b>
H6	Relational norms->TC	-0.602	3.186**	<b>Supported</b>
H7	Cognitive capital->SL	0.252	2.590**	<b>Supported</b>
H8	Cognitive capital->TC	-0.012	0.087	Not supported
H9	TC->SL	-0.082	0.999	Not supported

Adjusted R<sup>2</sup>=0.621, \*p> 0.1, \*\*p> 0.05

Source: Survey Data (2019)

Survey results confirmed that there is a positive relationship between network relationship and livelihoods of *Samurdhi* beneficiaries. In here, path coefficient is recorded as +0.006 between network relationship and livelihood success. T-statistic value is less than 1.96. Therefore, hypothesis H1 was rejected showing that there is no

significant positive relationship between network relationship and livelihood development of *Samurdhi* beneficiaries in Sri Lanka. Some researchers have identified that network relationship improves the livelihood (Misra et al., 2014). Gunasekara et al. (2017) have also identified that there is a significant positive relationship between network relationship and livelihood success of the member's of CBOs. Abenakyo et al. (2007) explained that social network is used to improve livelihood capitals.

As well as path-coefficient between network relationship and TC is recorded as -0.106. Thus, hypothesis H2 is accepted. Some scholars have identified that network relationship leads to minimize TC (Gulati, 1995; Yenidogan, 2013). Zaheer et al. (1998) identified network relationship leads to minimize searching and negotiation costs. This study shows the similar results. Path coefficient is recorded as +0.324 between inter-personal trust and livelihood success. Thus, hypothesis H3 was accepted. Similar results have been given by some scholars. Gunasekara et al. (2017) identified that trust has a negative relationship with improvement in livelihood. Abenakyo et al. (2007) found that inter-personal trust has an influence to improve livelihood. Further, path coefficient of -0.149 is recorded between inter-personal trust and TC. However, hypothesis of inter-personal trust negatively associates with TC of *Samurdhi* beneficiaries (H4) is accepted at 0.05 significance level. Some scholars provided similar results showing the relationship between inter-personal trust and various types of transaction costs shows negative relationship according to the scholars Zaheer et al. (1998); Dyer & Chu (2003); Priyanath and Premaratne (2017c).

Relational norms as an independent variable show +0.249 beta value of relationship with livelihood success. Further, hypothesis (H5) i.e. the relational norms positively associate with sustainable livelihoods of *Samurdhi* beneficiaries, is accepted at 0.05 significance. Some scholars proved this significant positive relationship (Anderson & Weitz, 1992). Path coefficient of the relationship between relational norms and TC, is recorded as -0.602 showing that if relational norms increase by 1 percent TC would decrease by 60.2 percent suggesting a powerful negative relationship between them. Therefore, hypothesis (H6) i.e. relational norms negatively associate with TC of *Samurdhi* beneficiaries, is accepted at 0.05 significance level. Some researchers have proven that relational norms have negative significant relationship with mitigating TC (Priyanath et al., 2016b; Heide & John, 1992; Paswan & Young, 1999). Scholars have identified different items to measure relational norms and that items also have negative relationship with TC such as solidarity and TC, information exchange and TC and role integrity and TC. Finally, they described negative relationship between relational norms and TC. Our empirical findings provide the similar results.

Relationship between cognitive capital and sustainable livelihoods is recorded as +0.252. Hypothesis H7 is accepted at 0.05 significance level. Some researchers have proven significant positive relationship between cognitive capital and sustainable livelihoods would describe by reducing poverty. Association between cognitive capital and TC is recorded as -0.012. Hypothesis is also rejected at 0.05 significance level. Even though hypothesized relationship (negative) exists between them, that relationship is not significant. Cognitive form in SC leads to reduce searching, negotiating, monitoring and enforcement costs significantly (Priyanath & Premaratne, 2015a). Heide et al. (2007) explain that cognitive capital has an influence on TC.

The results revealed that if TC increases by 1 percent sustainable livelihoods would decrease by 8.2 percent by suggesting negative relationship between them. Hypothesis H9: TC negatively associates with sustainable livelihoods of *Samurdhi* beneficiaries are rejected at 0.05 significance level. Therefore, it can be concluded that TC shows insignificant negative relationship with sustainable livelihoods. Reduction of searching cost in TC would not cause to improve livelihood of poor farmers by reducing vulnerability significantly. However, some researchers highlighted that negative relationship between TC and sustainable livelihoods.

## 5. Conclusion

The study has identified that improvement of interpersonal trust, relational norms and cognitive capital leads to enhance sustainable livelihoods of *Samurdhi* beneficiaries in Sri Lanka. Further the study shows that improvement of network relationship, interpersonal trusts and relational norms help to mitigate TC among *Samurdhi* beneficiaries in Sri Lanka successfully. However, there is no impact of cognitive capital to mitigate TC. As well as there is no impact of TC on livelihood success. Thus, the study provides sufficient empirical evidences to conclude that SC of the members of CBOs has a strong impact on TC and livelihood success. Thus, the study makes important contributions to the literature by providing empirical evidence related to SC, TC and livelihood success of the

members of CBOs. In this way, the study extends the understanding about the relative efficacy of theories into a different social and economic context. The empirical results provide sufficient evidence to recognize the strength of social mechanism as the governing of TC and livelihoods.

Policy makers have not given enough attention mitigating TC which helps to improve livelihoods of the members of CBOs. Therefore, the study recommends policymakers to develop approaches to provide necessary support to access information and resources for their CBOs. The study observes that the members of CBOs have developed close relationships with a few reliable buyers and suppliers for regular transactions expecting to minimize TC. They do not have enough capacity to establish direct relationships with large scale and foreign exchange partners. Therefore, policy makers should support CBOs to develop more connections with other networks both in local and international organizations. In addition, the important recommendation for the members of CBOs should develop positive and strong SC to enhance sustainable livelihoods. The members of CBOs devote time and resources to strengthen SC developing more network relationship with different network which increases livelihood by mitigating TC.

Future researchers are needed to give prominent attention for regular methodologies to measure SC and TC in developing countries specially because various scholars have identified various methods to measure those variables. Current study focuses on three dimensions of SC as structural, relational and cognitive. However, those dimensions are close to each other. There are many types of social capital as bonding, bridging and linking social capital; strong and weak ties; horizontal and vertical networks. Therefore, future researchers must concern about other types of SC rather than three dimensions. The study uses only searching, negotiating, monitoring and enforcement costs to measure TC. However, opportunism, bounded rationality and uncertainty are concerned as major concepts under TC literature. Therefore, future studies need measure other concepts of TC rather than four types of TC costs. The study mainly concerns three outcomes of sustainable livelihoods. Further sustainable security index, sustainable livelihood index and multidimensional livelihoods index are used by scholars in order to measure sustainable livelihoods. Therefore, future researchers can measure sustainable livelihoods using those indexes.

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