

Local Social Capital: Revisiting the Measurement and Establishing Manageable Indicators

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Abstract The social links between community entities are frequently regarded as a valuable asset for local economic development. Opinions diverge regarding the particulars of social capital and its constitution within social relations, despite its fundamental nature coming from these connections. Diverse public and private activities, according to Putnam (1995b), could constitute local social capital. While social capital can be conceptualized as private relations, assessing and debating it from the standpoint of local governments presents a formidable challenge. The distinction between the public and private spheres regarding the character of human activities was advanced by Arendt (1958). This study aims to frame the possible indicators for measuring local social capital by adopting Arendt's classical theory. By applying it to the social capital of the social communities, the research fills a gap in the discussion between public and private spheres. The integrated framework theoretically provides a backbone for the distinguished perspectives of social capital in different levels of human activities. As well as categorizing manageable and non-manageable indicators, it also provides practical policy implications for the criteria local governments place an emphasis on for managing the level of social capital in a region. It is anticipated that the framework will advance the expansion of the theoretical literature on social capital by identifying measures at two distinct levels: individual and collective characteristics.

Keywords: • local governments • social capital • social relationships
• public activities • manageable indicators

1 Introduction

Why is social capital in local government important? The social relationships of community members can be considered a productive resource for local development, and previous research on social capital has focused on economic growth, local government performance, and democratic development (Baum et al., 2000; Coleman, 1988; Digdowiseiso, Murshed, & Bergh, 2022; Herz, 2015; Kłoczko-Gajewska & Németh, 2020; Knack & Keefer, 1997; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1997; Y. Lee & S. J. Lee, 2019; Lőrincz & Németh, 2022; J. H. Park, 2023; Putnam, 1993a, 2000; Qian, Cai, & Yin, 2019; Veenstra, 2000). However, while the essence of social capital comes from social relations (Lin, 2001, p.24; Portes, 1998, p.7), opinions vary on the specifics and how it is contained in social relations. If the focus is linked to local governments, the perspective can be clarified. According to Putnam (1993a), the reason for the difference in local government capabilities is anchored on local corruption and trust. He argued that various private and public activities could be considered local social capital. This is because social relations such as sports activities, private gatherings, and voting are regarded and measured as social capital. While private relations can be seen as social capital, it is difficult for local governments to measure private relations and discuss social capital from the perspective of local governments; it is necessary to distinguish between manageable and impossible private relations.

The social capital of local communities is related to the capabilities of local governments and can be seen as a shared force existing in the community. The close relationships between members of a region, such as clubs and gatherings, help to improve community competency, such as through networks. In addition, civil participation in labor unions, voting activities, and volunteer activities can contribute to community competencies. These various activities can also be a mechanism for boosting positive perceptions (e.g., trust awareness) of the local community, which also affects the intention to live in the region in the long term. However, as previously discussed, social capital must be continuously increased so that maintaining and promoting capital is possible from the perspective of local governments (Kłoczko-Gajewska & Németh, 2020; Y. Lee & S. J. Lee, 2019; Lőrincz & Németh, 2022). As suggested by Arendt (1958), the activities of members of society can be divided into private and public spheres. Accordingly, social capital should also be linked to discussions from this point of view. In other words, it is necessary to focus on the social relationships of public activities rather than on those of private activities.

In addition to measuring the social capital of local governments, other issues should also be discussed at this point. First, what is the object of social capital to be measured? Putnam (1993a, 1993b) and Coleman (1988) defined and used the object of social capital, but the measurement indicators have been inconsistent in

research. Moreover, the private and public spheres of social capital tend to be indiscriminately mixed. Second, are individuals and groups distinguished? Third, how can social capital be measured? Until now, social capital has been evaluated in terms of the “awareness” of relationships, but indicators for local governments must have high data reliability. In other words, quantitative data are an important issue for measuring social capital. Fourth, should the nature of the indicators be inputs (or processes) or results? From a managerial perspective, it is important to distinguish whether the indicator is an independent or a mediating or dependent element. This is because indicators related to inputs or processes enable local government intervention. Fifth, what are the attributes of public activities? Public activities may include promotional activities for the benefit of the community through participation or activities to criticize community problems. For example, tax resistance can be seen as an activity in which citizens criticize problems with local government public services. Resistance to local government activities (veto) can also cause social conflict. Regardless of the purpose of the local government’s policy, this conflict increases the transaction cost of the policy, so it can be judged that social capital is low. This type of event can also occur in relations between local governments, and arbitration and mediation committees can be viewed as a result of social costs.

With this background, the rest of the paper is presented as follows. In section 2, the standard issues for measuring local government social capital are discussed and summarized. Focusing on the social relationships of public activities, local governments’ social capital is addressed in a way that clarifies previous studies. In section 3, a framework for measuring local government social capital is proposed. In section 4, indicators suitable for each area presented in the framework are classified and analyzed. Finally, manageable social capital is explored from the perspective of local finance and this work concludes with suggestions for future research.

2 Literature overview

2.1 Local government and social capital

De Tocqueville developed the term “social capital” to explain the appearance of American society (De Tocqueville, 1994). In American society, individuals are free to join organizations, but it is common for organizations to present their agenda to congress. Social capital was first conceived in the form of democracy in the United States and emphasized that the activities of organizations go beyond private interests and are of public interest.

Academically, discussions on social capital were highlighted by Coleman (1988, 1990) and Putnam (1993a, 1993b). Their social capital research received great attention from other scholars in various fields such as sociology, politics,

economics, public administration, and business administration. Scholars have examined social capital at a multitude of levels, encompassing neighborhoods, communities, organizations, nations, and the international community, in accordance with their research objectives and areas of interest. Although great interest in social capital led to further analyses in this area, the work of converging from a unified perspective has been relatively insufficient. However, while it has been difficult to develop a single definition of social capital, there is a consensus that social capital is based on social interactions between actors (Collins, Neal, & Neal, 2014; De Souza Briggs, 1997; Lappé & Du Bois, 1997; Leana & Van Buren, 1999; Maimon & Browning, 2012; Quatrin, Galli, Moriguchi, Gastal, & Pattussi, 2014; Wind & Komproe, 2012).

The representative discussions on social capital are as follows. First, Coleman (1988) argued that “Social capital is not a single entity, but a variety of complexes that usually contain two or more elements. They constitute some aspects of the social structure and promote the specific behavior of actors in the structure, making it clear that social capital is formed in the relationship between members of society.” Second, Fukuyama (2000) believed that “social capital is a rule that promotes cooperation among members,” and that these rules include social norms such as religious doctrines. He applied de Tocqueville’s perspective to the national economy, arguing that the industrial structures of high- and low-trust societies are different. He also stressed that the difference in the national economy is based on voluntary social organizations, and trust must be premised on the formation of social organizations. Third, Putnam (1993a, 1993b, 1995a, 1995b) also stated that social capital includes a norm, trust, and network that promotes coordination and cooperation for mutual benefit under the assumption that society can improve if people cooperate. In other words, social capital is related to the characteristics of social organizations such as trust, norms, and networks and can be defined as enabling coordination and cooperation for the mutual benefit of members of society (Putnam 1993a).

Fourth, Innes, Gruber, Neuman, and Thompson (1994) refer to social capital in the process of policy formation, which defines “social capital as a mechanism and forms private relationships between members,” and social capital is regarded as a contributing factor for policy formation and coordination in the consensus process. Innes et al. (1994) believe that the recognition of local people or local communities is important as they emphasize communication with each other to solve problems. This means that social capital corresponds to trust. Fifth, Healey (1998) attempted to examine social capital as one factor in promoting cooperation in the process of system formation at the program level as “social capital is defined as relationship resources.” The necessity of related capital was emphasized as an intermediate factor in realizing knowledge resources. In particular, social capital was considered to refer to social structure and trust as the quality of networks in a region. Sixth, Lin (2001) defined social capital as a

resource of relationships and mentioned that social capital is a key mechanism in achieving goals for individuals, social groups, organizations, and communities (Table 1)

Table 1: Previous studies on social capital

Scholar	Definition	Research item	Approach
de Tocqueville (1994)	Voluntary participation of citizens in community activities is an alternative to solving the tragedy of the common good.	Private organization	Theory building
Coleman (1988)	A psychological action that promotes a specific behavior of an actor within a social structure as a complex containing two or more factors.	Social relationship	Theory building
Putnam (1993a)	Trust, norms, networks, etc., that enable coordination and cooperation for the mutual benefit of members of society.	Social organization	Theory building
Fukuyama (2000)	Defined as a generally understood rule for people to cooperate, such as the norm of religious doctrine, and applied de Tocqueville's argument to the economic realm.	Intermediate private organization	Theory building
Lin (2001)	Social capital, understood as a resource of relationship, is a key mechanism in achieving the goals of individuals, social groups, organizations, and communities.	Community	Theory building
Innes et al. (1994)	Social capital contributes to coordinating policies and consensus processes as a mechanism to form private relationships among members.	Policymaking process	Implication for practitioner
Healey (1998)	Social capital is regarded as an intermediate factor in realizing knowledge resources as relationship resources.	Implementation of project	Implication for practitioner

The above research on social capital targets social relations, private relations, and public areas. However, the key point is that all these objects measure the capabilities of society (Waverijn, Groenewegen, & de Klerk, 2017). In modern society, community competency is significantly related to local government competency. In other words, social capital plays a role in improving the physical and human capital inherent in local governments (Coleman, 1990). Social development has been aided, for instance, by increased social capital, such as

enhanced social activism by women (Ferdous & Islam, 2021). Residents' engagement in the governance of the community and utilization of services provided by community workstations is predominantly driven by the public spirit (Li, 2009; Perry & Wise, 1990; Qian et al., 2019).

In addition, social capital commonly has an element of social structure that promotes the specific behavior of actors within the structure. Unlike other forms of capital, social capital does not simply exist in actors, but is present in structural relationships, increasing the organization's productivity and enabling the achievement of specific goals (Coleman, 1988). This perspective is very complex and broad, which is why creating a consistent definition of social capital has been difficult. In modern society, it is impossible for local governments to intervene in private areas. Therefore, we should distinguish between the social capital gained when local governments intervene and when they do not (Ermisch & Mulder, 2019). To distinguish these gaps, this study clarifies the issues surrounding measuring local government social capital.

2.2 Issues in measuring local government social capital

Local governments are, by nature, "aggregates" (Kłoczko-Gajewska & Németh, 2020; Woolcock & Narayan, 2000) and as social capital is the quantity and quality of social relationships, measurements of aggregates should be considered. Social capital has generally been measured around recognition. Accordingly, there has been a tendency to set the unit of measurement at the individual level. While it can be supplemented by taking considered inertia into account for objectivity and measuring considered inertia (Wolf, Adger, Lorenzoni, Abrahamson, & Raine, 2010), measuring while taking into account access to the aggregate and analysis units should be the core theme. Subsequently, quantitative data should be prioritized rather than qualitative recognition, and it is necessary to subdivide these overall considerations and issues for measuring local governments' social capital.

2.3 The beginning of the discussion on measuring local government social capital: The conceptualization of social relationships in public activities (Arendt, 1958)

As suggested by Arendt (1958), the membership activities of society can be divided into the private and public spheres. While the private sector is an area of economic activity for survival, the public sector is a space where humans communicate common problems regardless of economic profit. For Arendt (1958), the area of public activity is a space of action against "common things" for all of us (Jung, 2010) and is unique to humans. Most scholars do not distinguish between private and public activities. Nevertheless, it is assumed that social relations solve various regional problems related to local government performance.

Research on social capital includes economic growth, local government performance, and democratic development (Baum et al., 2000; Coleman, 1988; Knack & Keefer, 1997; La Porta et al., 1997; Putnam, 1993a, 2000; Veenstra, 2000). In this vein, social relations can be utilized to solve the problem of public goods.

When social capital is viewed as social relations, public and private activities are not distinguished. This is because the focus of most theoretical studies, such as de Tocqueville (1994), Putnam (1993a), and Coleman (1988), was of great significance as a theoretical confirmation of social capital. Through a long conceptualization process, networks, trust, and norms have been derived, and evaluations have been made using various measurement units. Related indicators tend to be arbitrarily defined and utilized as needed depending on the academic field, researcher, country, or region. Participation indicators tended to be inconsistent, for example including or excluding private relations at the individual level, such as “clubs” and “sports clubs” In Putnam’s (1993a) work, sports clubs and private gatherings were utilized as measurement indicators, so there was no significant abnormality in measuring private relationships. However, approaches that view social capital (Caldas et al., 2016; Dollery, Crase, & Grant, 2011) as related to community or public activities become important. This means that social relations in both the private and public spheres can be formed, but social capital linked to the development of a country or region needs to be discussed as a public area of activity. Consequently, this paper incorporates Arendt’s (1958) perspective on social capital by distinguishing public and private areas while viewing social capital as a social relationship.

2.4 Whose capital is it? Individuals vs. regions

The conceptual premise of social capital is simple and direct and is regarded as an investment in social relations where market compensation is predicted (Lin, 2012, p. 19). Social relationships can have different interests depending on a person’s position in relation to ownership of the relationship. Starting with an individual, the perspective of a relationship can be viewed as an individual’s human capital, and when approaching it as a top-down outcome of a specific community, the level of relationships included therein can be viewed as an aggregate of social capital. In other words, the personal relationship of an individual is their capital, and the network of the assembly becomes the capital of the assembly. Even if it is somewhat unclear, collective-level capital may be considered through the level of networks related to regional development within local governments and the level of intermediary organizations.

What corresponds to public activities at the collective level becomes the density or level of the relationship of activities related to the local public domain. Specifically, it can be divided into the levels of participation in local public

interest activities, the level of participation in public interest activities within local governments, and other public activities. As indicators of the level of participation in local public interest activities, the ratio of the volunteer population and the rate of corporate activities in the region of social and economic organizations can be considered. As long as the level of participation in public interest activities within local governments is defined as actively participating in government activities, it has no consistency because it differs between local governments in terms of resident participation, budget activities, and financial project evaluations.

However, the quality of relations between residents and local governments can be improved in that they actively participate in government activities and projects that are necessary for the region. Budget activities can also be considered. Lastly, the level of participation in other public activities may include the turnout of local or collective groups, the rate of occurrence of protests, the rate of conflict in the region, and conflict mediation and resolution.

2.5 Distinguishing between the attributes of public activities and social relations: Positive (+) vs. negative (-) effects

Local social capital increases the competitiveness of local governments (Kwon & J. Park, 2010; H. Lee, 2012; H. Lee & H. Park, 2005; Yoon & Oh, 2007), as well as the institutionalization level (Choi, 2015), and public sector performance (Choi & Kim, 2016). However, when public activities are related to social improvement, their direction may sometimes change.

The distinction according to the attributes of public activities should be discussed in this perspective. Public activities may have promotional activities for the benefit of the community through participation or criticism of community problems. For example, tax resistance can be seen as an activity in which citizens criticize problems with local government public services. In addition, resistance to local government activities (veto) can cause social conflict. Regardless of the purpose of the local government's policy, this conflict increases its transaction cost, resulting in low levels of social capital. Specifically, public activities play a role in filling a certain part of the public domain that cannot be resolved through government actions and sometimes cause conflict within the region, making it difficult to promote government actions. From the perspective of local governments, social transaction costs must be borne to solve this problem, and this difference in level can result in differences in local government performance. Accordingly, resolving conflicts in the region has become an important issue for local governments, and various policies and measures must be proposed to resolve these issues. This means that the levels of conflict and regional cohesion due to conflict can be viewed as a form of social capital for local governments.

2.6 How to measure social capital? Qualitative (recognition) vs. quantitative (substantial) data

Measuring regional social capital needs to be based on more specific data. Whether the indicators of local government social capital measurement can include quantitative data is an important issue. As the most representative example, Putnam (1993a) used four factors to gauge the level of civil communities in Italy: priority voting, reference turnout, newspaper reading, and participation in sports and cultural organizations. Putnam also utilized data from a perception survey on the performance of local governments. However, the most basic data applied were social capital, measured through real data, and based on the data from 1950 to 1980, the relationship between the changes in four factors was confirmed (Putnam, 1993a, 1993b).

However, qualitative data also represent an important indicator, and can be helpful if looked at as a “result” rather than an object to be managed and improved. Quantitative indicators can be regarded as one independent element of local or local governments, and qualitative indicators (recognition) can also result from this. The ratio of community volunteer work is also not a state that the government can enforce, but the level of volunteer work can be presented as an objective level compared to other regions. Therefore, it is appropriate to consider quantitative and qualitative indicators together.

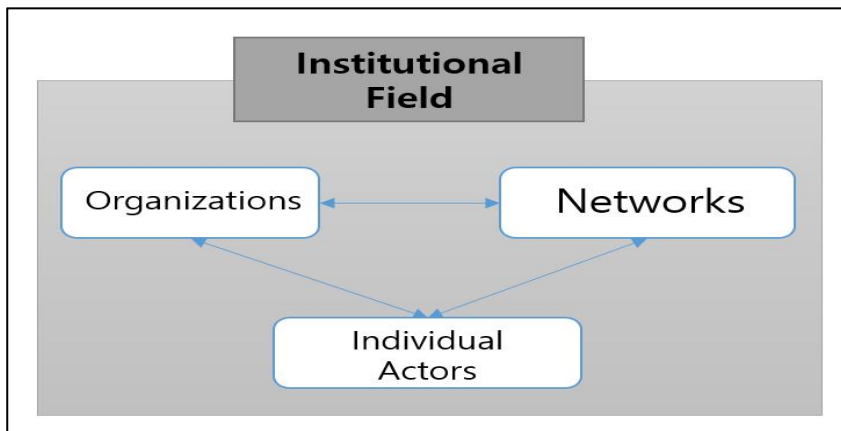
2.7 Is it a process or an outcome?

Discussions on quantitative and qualitative indicators eventually relate to whether the level of local governments can be measured. If the qualitative index is relatively close to the results, the quantitative index can result in external conditions that must be managed, like the external conditions of community competency. In other words, as an element corresponding to the cause condition, it should be discussed as a management indicator at the local government level, and this discussion is also an issue that appears in previous studies of social capital. Grootaert and Van Bastelaer (2002), Putnam (1993a, 1993b), and Coleman (1988) viewed social capital at the structural level, such as social relations, as the “cause” and perceived social capital, such as norms or trust, as the “result”. This can be applied equally to the measurement of local government social capital, and it is possible to think about whether the nature of the indicator is an input (or process) or a result. If local governments approach this from a managerial point of view, it is important to distinguish whether the indicator is an independent factor or a mediating or dependent factor. The important point is that indicators related to input or processes can enable local government interventions.

2.8 Is it possible to manage or promote social capital? Lin (2001)'s institutionalizing organizations

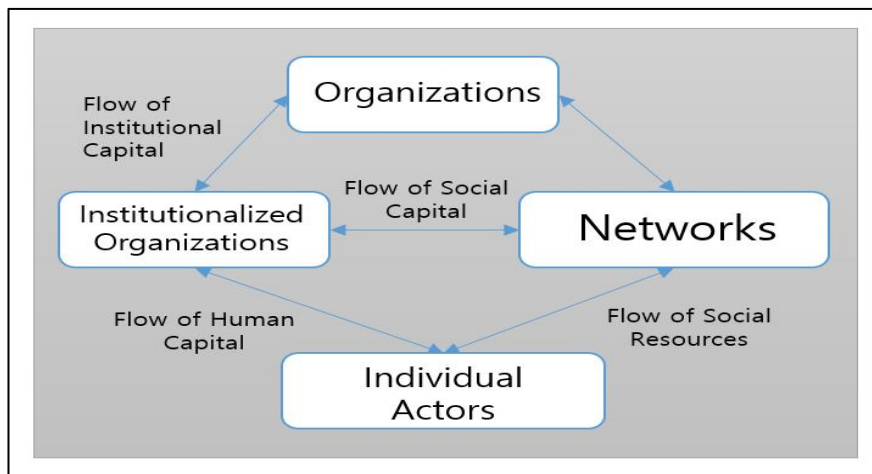
Putting the above discussion together, the measurement of local government social capital is a measure of the social relationship of public activities. If so, is the social relationship of public activities manageable? The discussion on this can incorporate Lin's (2001) concept of institutionalizing organizations. Lin (2001) argues that social forces allow social capital to operate at the individual and organizational levels. At this time, social relationships may occur in interactions between individual actors, but also between organizations. Accordingly, transactions and exchanges can take place within and between organizations and between actions. Here, as principles of organized interaction, institutions are defined as rules of the game, which may be formal or unstructured. From this perspective, institutions can be viewed as a cultural level beyond what analysis or verification is possible. Rules can produce values such as norms and ideologies. When looking at the system in this way, Lin (2001) argues that organizations and individuals are equally applied to institutional fields. In Figure 1, the head of the system provides the rules and values of the game, and the inter-organizational, individual-organizational, and individual-organizational networks are synchronized.

Figure 1: Relationship between individuals, organizations, and networks in the institutional field



Source: Lin (2001, p. 189)

Figure 2: The process of promoting social capital through institutionalized organizations



Source: Lin (2001, p. 194)

Furthermore, Lin (2001) considered institutionalized organizations as factors that can change the rules of the system. He believed that institutionalized organizations can improve both personal and organizational networks, and institutionalized organizations are promoters or prompts that increase both social resources and social capital. Lin's (2001) discussion theoretically demonstrates that there may be manageable indicators from the perspective of local government social capital. In particular, various organizations for public activities formed by local governments are all factors that can encourage social capital, which can be seen as a level of relationship, such as the participation rate of institutions or individuals interacting with them. Subsequently, Lin's (2001) argument seems to be an appropriate theoretical basis if local governments want to manage social capital. (Figure 2)

2.9 Framework for measuring local government social capital

Based on the above theoretical issues, Table 2 presents the final framework. The input and process are divided into institutional and social capital from the perspective of the system, and measurement indicators are constructed accordingly. At this time, institutional capital, even if it is distinguished from the social type, is capital owned by local governments because they are an important medium for establishing various regional networks, which is a factor for building social capital within local governments. It should be seen as an important indicator that can be managed. Since these social capital indicators can be classified according to manageability, it is necessary to identify measurement items by dividing them into

manageable and unmanageable indicators. This study proposes the construction of local government social capital indicators through this framework.

Table 2: Indicators for measuring local government social capital (quan: quantitative, qual: qualitative)

Capital	Level	Scope	Type	Manageable indicator		Non-manageable		
				Institutionalizing capita (input)	Social capital (process and outcome)	Input	Process	Output
Human Capital	Individual		Quan					
			Qual (recognition)					
Social capital	Group	Participation (N)	Quan					
			Qual (recognition)					
		Trust (T)	Quan					
			Qual (recognition)					
		Norm (N)	Quan					
			Qual (recognition)					
		Happiness	Quan					
			Qual (recognition)					

3 Exploration of indicators by framework for measuring local government social capital

3.1 Indicators of human capital classification

Table 3 summarizes individual human capital. Individual access to human capital cannot be a manageable indicator at the local government level, and it can be influenced by cultural factors (e.g., norms) of an individual community and the state in which one perceives cultural factors are derived from the result. Such results may include trust in others (who have a relationship with them), satisfaction with participatory activities (Li, 2009; Perry, 2000; Qian et al., 2019), and individual happiness, which can be included as human capital. Previous studies have found these metrics to be consistent with those pertaining to community engagement, quality, and trust.

Table 3: Indicators for individual human capital (in terms of social relations)

Capital	Level	Scope	Type	Manageable indicator		Non-manageable	
				Institutionalizing capital (input)	Social capital (process and outcome)	Input	Output
Human Capital	Individual		Quan				
			Qual (recognition)			norm	Trust/network/happiness

3.2 Indicators of participation in social capital

Table 4 illustrates the participation element of measuring the social relationship between local government and public activities. Criteria for measurement can be presented as data type, as well as the indicator’s manageability, nature (input, process, result), and manageability according to capital characteristics. In the table, several indicators can be presented considering the capital (or organization) institutionalized at the local government level.

The first is the encouragement of resident autonomy (Qian et al., 2019). Consistent with previous research, autonomy serves as an indicator that promotes self-governance and supports the development of local customs and community concerns (Ostrom, 2000, 2009; Qian et al., 2019). Currently, local governments operate village development or community programs. Local autonomy is related to the promotion of the ability of residents to raise and solve regional problems on their own (Frederickson, 1997; Li, 2009; Mansbridge, 1994; Perry, 2000; Putnam, 1994, 2000). Since Putnam (1994), the prevailing consensus among scholars has been that this factor serves as a driver for resolving regional challenges. This process makes it possible to promote mutual exchange between local and private sectors because it deals with common regional problems. Therefore, this process can be considered as institutionalized capital that promotes the social relationships of public activities in the community. When the measurement indicators are divided into institutionalized capital and social relations, the project budget of the residents’ association may be considered for institutionalized capital, and the number and participation rate of the residents’ association may be considered for social relations.

The second is encouraging residents’ activities. Local governments can encourage local residents to engage in activities by providing various public services. The promotion of activities in the region, such as support for local cultural facilities, public libraries, and public interest organizations, contributes to the formation of

networks in the region. This was assumed to be the social relationship of public activities in the region and was regarded as institutionalized capital. The use of cultural facilities and public libraries may be private activities at the individual level, but it was considered appropriate to view them as public activities because they were not a means to obtain the economic benefits of the local community.

According to Arendt, regardless of economic interests, the space where humans communicate on common problems is the area of public activity (Arendt, 1958). Therefore, cultural activities can be viewed as a community area rather than economic benefits. In the case of civic groups, from the perspective of institutionalized capital, the support budget for civic groups (ratio) and the number of registered ones may be considered, and their participation rate may be considered in social relations. In the case of local cultural facilities, the number and budget of local cultural facilities may be considered for institutionalized capital, and the utilization rate may be considered for social relations. In the case of public libraries, institutionalized capital includes the number and budget of public libraries, and social relations include utilization rates.

The third is a reflection of budget resistance. Metropolitan and local governments operate resident participation budget systems, which are institutional mechanisms for enhancing fiscal transparency (J. H. Park, 2023). Public funding strategies are consistent with the contention that democratic processes and governance make a positive contribution. The resident participation budget system, which has spread around the world since it was introduced by the city of Porto Alegre in Brazil, is a form of resistance from local citizens to the low adequacy of public projects reflected in the budget. In other words, the resident participation budget system is a system that guarantees residents' participation through the transfer of authority, decentralization, and sharing of the budget rights exclusively exercised by the local government's executive branch. The resident participation budget system is a public activity of local citizens. When the measurement indicators are divided into institutionalized capital and social relations, institutionalized capital includes a resident participation budget (ratio), and social relations include the number of resident participation budget operating projects and the number of participating institutions. At this time, although this varies between local governments, residents participate in the financial project evaluation and conduct the evaluation. In this case, this can also be used as an indicator.

However, the level of recognition of local government social capital based on qualitative data is not a manageable indicator, but it is possible to distinguish between process and output indicators. In this case, while input is not considered, the process and results (output) are considered capable of satisfying or evaluating participation. In other words, although it is an indicator that cannot be managed, the overall satisfaction of participants (Perry, 2000) in the project participation process can be viewed as a result of individuals' evaluating the level of

participation in the community as a process indicator (Caldas et al., 2016). This metric provides a distinctive contribution in contrast to prior research that examined satisfaction ratings on an individual level (Caldas et al., 2016) or on the aggregate level of all participants (Perry, 2000). There is debate over whether individual evaluation of the aggregate is possible, but this study believes it is possible to measure the concept of regarded inertia for objectivity (Wolf et al., 2010).

Table 4: Indicators for “participation” in social capital

Capital	Level	Scope	Type	Manageable indicator		Non-manageable	
				Institutionalizing capital (input)	Social capital (process and outcome)	Input	Output
Social Capital	Group	Participation	Quan	Budget of residents' association	Number of projects operated by residents' association and the rate of participation		
				Participatory budget	Participatory budget related to project number and the number of participating institutions		
					Rate for voting		
				Budget support for non-governmental organization (NGO), registration of NGO	Participation rate of NGOs		
				Number of budget of local cultural facilities	Utilization rate		

Capital	Level	Scope	Type	Manageable indicator		Non-manageable	
				Institutionalizing capital (input)	Social capital (process and outcome)	Input	Output
				Number of budget of public libraries	Utilization rate		
			Qual (recognition)			Satisfaction with participation	Evaluation of local participation

3.3 Indicators of trust in social capital

There are many studies on trust, but quantitative measurement of this concept is difficult because trust is based on “recognition.” However, in the relationship between local governments and citizens, “trust” can occur in the process of performing public services (Innes et al., 1994, Fukuyama, 2000; Putnam, 1993a, 1993b, 1995a, 1995b; Qian et al., 2019). For example, if citizens do not trust local government projects during budget monitoring, they may think that local governments are wasting their budget. Even if trust is not directly measured, inappropriate budget waste reporting means a low level of trust in local governments. In addition, the level of trust in the region was considered an indicator of the unmanaged process and the calculation of individual evaluation of the level of trust in the region. Table 5 summarizes the above discussion.

Table 5: Indicators of trust in social capital

Capital	Level	Scope	Type	Manageable indicator		Non-manageable	
				Institutionalizing capital (input)	Social capital (process and outcome)	Input	Output
Social capital	Group	Trust	Quan	Budget for operating the inappropriate budget reporting center	The rate of reporting		
			Qual (recognition)			Local trust	Evaluation of local trust

3.4 Indicators of norms and reciprocity in social capital

Among the areas of measuring the social relationship of local government public activities, the “norm” is presented in Table 6. The norm for achieving the public good of the community should be a reciprocal social relationship (Putnam, 1993a, 1993b, 1995a, 1995b). Considering this point, several manageable indicators can be presented. First is the “volunteer” activity part. One of the most representative norms and a general indicator of social capital is volunteer work. If this is divided into institutionalized capital and social relations, the number of volunteer centers, volunteer support budgets, and volunteer registered population may be considered in institutionalized capital. For social relations, the volunteer participation rate is an indicator.

Second, it is a community economic activity (Perry & Wise, 1990; Perry, 1996, 1997, 2000; Li, 2009). This discussion aligns with the contention that there exists a correlation between economic development and social capital (Woolcock & Narayan, 2000). Economic activities are centered on corporate profits, but social enterprises can be seen as pursuing economic activities for the public interest of the community. The government has also tried to foster social enterprises that want to coexist with local communities, and their activities can be viewed as the social capital of local governments. If this is divided into institutionalized capital and social relations, institutionalized capital may include a social enterprise support budget and the number of social enterprises. In social relations, the level of activation of social relations in public activities can be measured by the social enterprise certification ratio for their activities. In the case of norms, social relations are divided into processes and outputs.

The third is the level of conflict within the community. The level of regional conflict can act as an obstacle to solving public problems. The lower the level of regional conflict, the lower the transaction cost of policy acceptance. In the case of regional governments at the metropolitan level, conflicts between lower local governments may also be an important issue. Therefore, the other important indicator of the norm is conflict. To resolve conflicts, local governments also use dispute settlement organizations. Dispute mediation bodies are regarded as institutionalized capital, and the number of mediation cases applied within the dispute mediation bodies is a process because it means the level of conflict. The final agreed number of dispute settlements can be seen as a result, and the dispute settlement ratio can be judged as the level of conflict inherent in local governments.

The fourth is an act of deviation, such as the avoidance of responsibility by local residents. Even if the obligation to pay taxes is not faithfully fulfilled, it is difficult to say that social capital is constructed effectively. Local tax arrears and collection rates are manageable indicators and results. However, the level of recognition of

local government social capital based on qualitative data is not a manageable indicator, but it is possible to distinguish between process and output indicators. Satisfaction with local reciprocity is a process indicator, and the evaluation of whether the level of reciprocity in the local community is high can be viewed as a result.

Table 6: Indicators for normality and reciprocity

Capital	Level	Scope	Type	Manageable indicator			Non-manageable	
				Institutionalizing capital (input)	Social relationship (process)	Social relationship (outcome)	Input	Output
Social capital	Group	Trust	Quan	Number of volunteering centers, budget, number of people registered in volunteering center	Participation rate for volunteering			
				Number of social enterprises or budget		Number of certified social enterprises		
				Existence of dispute mediation organization	Number of disputes in the region	Rate of dispute resolution		
						Local tax arrears		
			Qual (recognition)				satisfaction with local reciprocity	Evaluation of satisfaction with local reciprocity

3.5 Indicators of happiness as social capital

Happiness cannot be directly related to the measurement of social capital. However, if happiness is ultimately an important factor in the utopia pursued by the local community, it can be understood as the point of arrival of the local community (Bjornskov, 2008; Majeed & Samreen, 2021). Recent research has focused on the relationship between social capital and happiness. In this context, it can be seen as an asset or positive social capital of the region. However, there are no measurable quantitative indicators of happiness. Therefore, it can be measured

through qualitative data, and the process is an average of the level of satisfaction with community happiness, and the calculation can be measured by evaluating the level of local happiness and averaging it. Table 7 summarizes the above discussion.

Table 7: Indicators for happiness

Capital	Level	Scope	Type	Manageable indicator		Non-manageable	
				Institutionalizing capital (input)	Social capital (process and outcome)	Input	Output
Social capital	Group	Happiness	Qual (recognition)			Local happiness satisfaction	Evaluation of local happiness

3.6 An integrated framework for measuring local government social capital

Table 8 summarizes the above discussions through a framework for measuring the social relationship of public activities of local governments. While there may be another suitable indicator, the results of this study can be used as a guideline for measuring community capital. Lin’s (2001) perspective was utilized as the theoretical argument to demonstrate that indicators can be selected and managed. Institutionalized capital may be a means for local governments to continue measuring social capital and become a driving force for local governments’ social capital promotion. From a macroscopic perspective, manageable indicators can have a positive (+) relationship with non-manageable indicators.

From a microscopic perspective, it is assumed that [institutionalized capital → social relations (process) → social relations (output)] has a positive (+) relationship. In addition, it is assumed that the relationship between [input (recognition) → process (recognition) → output (recognition)] of the non-manageable indicator is assumed. Taken together, it is assumed that [manageable indicator: institutionalized capital → social relations (process) → social relations (output)] → [non-manageable indicator: process (recognition) → output (recognition)].

Table 8: Integrated framework for measuring local government social capital

Capital	Level	Scope	Type	Manageable indicator		Non-manageable		
				Institutionalizing capital (input)	Social capital (process and outcome)	Input	Process	Outcome
Human Capital	Individual		Quan					
			Qual (recognition)			Norm		Trust, happiness, network
Social capital	Group	Participation (N)	Quan	Budget of residents' association	Number of projects operated by residents' association and the rate of participation			
				Participatory budget	Participatory budget related to project number and the number of participating institutions			
					Rate for voting			
				Budget support for NGO, registration of NGO	Participation rate of NGO			
				Number of budget of local	Utilization rate			

Capital	Level	Scope	Type	Manageable indicator		Non-manageable		
				Institutionalizing capital (input)	Social capital (process and outcome)	Input	Process	Outcome
				cultural facilities				
				Number of budget of public libraries	Utilization rate			
			Qual (recognition)				Satisfaction with participation	Evaluation of local participation
		Trust (T)	Quan					
			Qual (recognition)				Local trust	Evaluation of local trust
		Norm or reciprocity (N)	Quan	Number of volunteering centers, budget, number of people registered in volunteering center	Participation rate for volunteering			
				Number of social enterprises or budget		Number of certified social enterprises		
				Existence of dispute mediation organization	Number of disputes in the region	Rate of dispute resolution		
						Local tax arrears		
			Qual (recognition)				Satisfaction with local reciprocity	Evaluation of satisfaction with local reciprocity

Capital	Level	Scope	Type	Manageable indicator		Non-manageable		
				Institutionalizing capital (input)	Social capital (process and outcome)	Input	Process	Outcome
								y
		Happiness	Qual (recognition)				Local happiness satisfaction	Evaluation of local happiness

4
Conclusions, policy recommendations, and limitations

This study explored how to view, measure, and manage local social capital, which is a large regional asset from the perspective of local governments. Based on Arendt (1958), it is divided into private and public spheres, and a theoretical framework is presented focusing on several issues. Based on the analysis results, several implications are drawn as follows.

The first is the theoretical implications. In previous works, social capital was approached by centering on social relations, and accordingly, various social relations in which individuals participate have been the subject of social capital. Social capital has dealt with individual relations as social capital since early research, and the concept of social capital includes this. What this study noted is that social relationships should also be distinguished between public and private activities. Social relations of private activities may contribute to the relationship of the community and of regional performance, but public activities promote the public interest of the community. In this respect, the framework of this paper guides the social relationships that local governments should focus on.

Second, this study presented a framework for practitioners by presenting manageable and non-manageable indicators. From a policy perspective, it can be used as a guideline for practitioners dealing with policies by dividing the evaluation stages of local capital into inputs, processes, and outputs. In addition, by focusing on quantitative data that can be employed at a practical level, the extension of the measurement of participation, trust, and norms, which has been limited to cognitive data, has been expanded.

Third, the variables of “community competency” and “local resident participation” studied in a segmented way were dealt with in an integrated theoretical framework.

Recently, central and local governments have proposed various measurement indicators and attempted measurements by paying attention to community capabilities. There are various indicators, such as the quality of life in the community and the level of community, and each region selects and utilizes indicators in the regional context. However, due to these respective choices, comparisons between regions are impossible. To improve local social capital or community capabilities in the future, there must be a common comparative indicator. The difference in current regional indicators may be due to the absence of a theoretical framework for integrating local communities. In this respect, this study is based on the long-standing but crucial theoretical concept of social capital, so it has the potential to consolidate and readjust regionally divided discussions.

Fourth, to highlight the contribution of this analysis, it is also necessary to consider how to index local social capital with data according to the proposed framework. This work proposes a fuzzy set calibration method, and this method makes it possible to convert the total score by adding all indicators to 100 points and comparing these. However, if we want to evaluate the absolute value, the average comparison method could be considered. This paper did not include the application of real data as it aimed to suggest possible indicators for measuring local social capital. In addition, in spite of a theoretical contribution to frame the concept of local social capital, subsequent studies should be anchored in empirical data-driven testing.

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