Transparency in Local Governments in Korea

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ABSTRACT

Government transparency is considered as a good indicator of good governance by enhancing the trust and accountability and reducing corruptions, thus enabling citizen participation. However, one of the challenges is its difficulty to measure the level of transparency. Unlike the transparency measured for the country level governments, this study focuses on identifying multi-dimensional determinants that contribute to measure transparency of local governments. We developed the TOES framework to model the determinants for the local government transparency, and present the data collection and integration, and regression model to identify significant factors for transparency.

CCS CONCEPTS

• **Social and professional topics** → Computing / technology policy.

KEYWORDS

Transparency, local government, open government

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1 INTRODUCTION

Transparency in government refers to government's obligation to share information with citizens that is needed to make informed decisions and hold officials accountable for the conduct of the people's business [1]. Transparency is often used interchangeably with Open Government that is the conceptual model composed with transparency, collaboration and public participation. Transparency has been considered as a core democratic value and enabler of good governance [7], providing citizens with great opportunities to monitor decisions being taken by government, and to influence over them [11].

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Despite the importance of transparency, empirical researches have failed to produce proper tools to assess and compare government transparency at local level [4]. Several researches have tried to measure transparency using indexes [12], perception data [2, 13] or data from collecting on the website of local government [11]. However, we could hardly find a useful framework which can be applied to model for investigating influencing factors on local government transparency.

In this work, we propose the Technology-Organization-Environment-Social (TOES) framework based on TOE model [5] for integrative view of the possible determinants of transparency at local government level. Using regression models, we identify the significant determinants to measure perceived and observed transparency levels. Diverse data sources in the framework also allows us to avoid bias from measurement problem of transparency.

2 BACKGROUND

Prior studies have identified many factors (variables) for measuring transparency of local government, such as Socio-economic factors like population, level of income and education attainment of society [11, 12]; Political factors such as electoral turnout, political ideology, political competition and political orientation of council [9, 12]; Organizational factors like the number of public officials, status of government and financial condition [9, 12]. In recent studies [3, 14, 15], ICT factors are regarded as important for innovations and transparency.

The TOE(Technology, Organization and Environment) Framework was originally developed to identify influential factors for innovation [5] but turns out to be a useful framework to explore above mentioned multi-dimensional determinants for government transparency. The model involves Technological factors which includes technological characteristics, Organizational factors including internal capabilities and resources which can facilitate or constrain the activity and Environmental factors containing political factors, infrastructure and regulation that can support or constrain.

3 RESEARCH DESIGN

We extend the TOE framework to TOES framework by adding *Social factors* to the TOE dimensions. Social factors to represent citizen participation and engagements which is an important determinant for transparency. The TOES research model for our study is developed and depicted in Figure 1. We address the research question: which variables in the TOES model are influential determinants for enhancing local government's transparency?

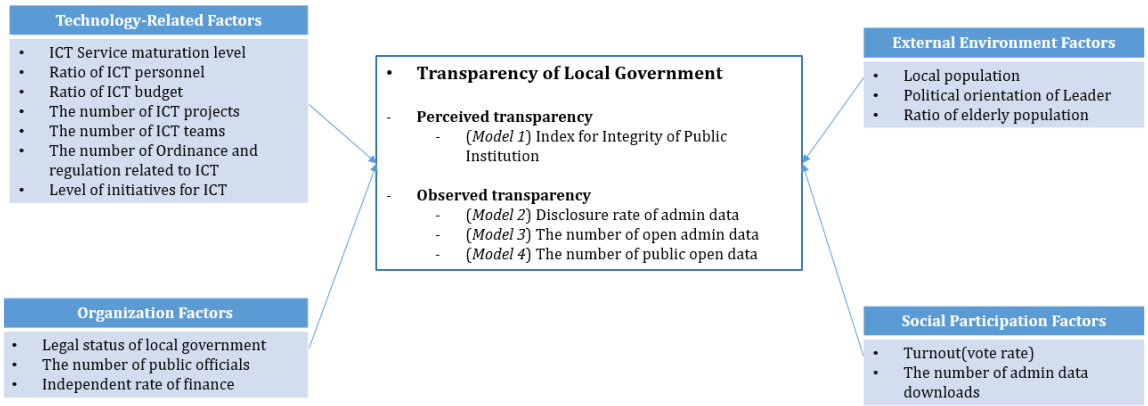

Figure 1: Research Model, Technology-Organization-Environment-Social participation(TOES) model

Table 1: TOES Variables and data source

Variables	Measurement	Source
Perceived transparency	Index for integrity of Public institution(2018)	Anti-corruption & Civil Rights Commission of Korea (2018)
Observed transparency	Disclosure rate of requested admin data by citizen(2018)	https://www.open.go.kr/
	The number of dissemination of admin data	
	The number of pubic open data set	https://www.data.go.kr/
Technology related factors	Maturation level of ICT service of local government(2018)	Korea Local Information Research & Development Institute (2019)
	Ratio of ICT personnel to total public official	Korea Local Information Research & Development Institute (2018)
	The number of ICT project	
	The number of ICT team	
	The number of ordinance and regulation related to ICT	
	Level of initiatives for ICT of local government	
Organization factors	Legal status of local government (Province / City)	Ministry of the Interior and Safety
	The number of public official	Ministry of the Interior and Safety of Korea(2018)
	Independent rate of finance	Local Finance Integrated Open System of Korea
Environment factors	Local population	Statistic Korea
	Ratio of elderly population	(http://kostat.go.kr/)
	Political orientation of leader of government	Hand collecting
Social Participation factors	Turnout(vote rate) of the region	
	The number of admin data downloads	https://www.open.go.kr/

4 DATA AND METHOD

In order to test our model, we collected data set on 243 Korean local governments from different data sources for the year of 2018. Variable list and sources of data are shown in Table 1. We used multiple regression analysis to determine statistically significant variables.

5 PRELIMINARY RESULTS AND DISCUSSIONS

In this study, we examine four models (see Fig 1 for transparency variables); one for perceived transparency (*model 1*) measured with Integrity and the others (*model 2~4*) for observed transparency measured with Disclosure Rate of Admin Data, Dissemination of Admin Data, Open data, respectively. We used multiple regression model for preliminary analysis and the results are shown in Table 2

Since the models and results have not yet been refined, many of determinants we have set up have examined to be significant

Table 2: Preliminary results

Model		Significant variables
Perceived transparency	Model 1 (Integrity)	ICT maturation level(β =0.429, p<0.05), Political orientation(D1, D2)(β =0.292, p<0.1, β =0.688, p<0.05) , Downloads by citizen(β =-0.001, p<0.1)
Observed transparency	Model 2 (Disclosure rate)	ICT budget(β =4.996, p<0.01), ICT projects(β =0.078, p<0.01), Elderly pop.(β =0.975, p<0.01), Political orientation(D1)(β =5.396, p<0.05), turnouts(β =-0.841, p<0.01), Downloads by citizen(β =0.0004, p<0.01)
	Model 3 (Dissemination of admin data)	Turnout(β =-5.423, p<0.1)
	Model 4 (Public open data set)	ICT maturation level(β =22.801, p<0.01), ICT budget(β =7.380, p<0.05), ICT projects(β =0.255, p<0.01), ICT initiatives(β =3.425, p<0.1), Legal status(β =-49.25, p<0.01), Public officials(β =-0.0006, p<0.05), Political orientation(D1, D2)(β =13.106, p<0.05, β =14.402, p<0.1), Turnout(β =-1.303, p<0.01)

in model 4. It refers our research variables are meaningful on the transparency level which measured by local government's provision of public open data sets. However, we find only one significant variable in model 3 so that further investigation will be needed. In addition, more diverse social participation factors such as the use of social media by local government which presents the level of government's effort to facilitate the active participation could be considered in further work.

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