

# The Determinants of Local Public Education Reform

## 지방 공교육개혁에 대한 결정요소

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### *Abstract*

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The primary goal of this article is to find why a school district more actively conducts its own public education reform. For this, the author explicates whether the roles of both neighboring school district and governance factors have explanatory power for the local public education reform. Many scholars prove that these two factors positively or negatively influence public education reform at the state level. However, the literature review has not proven that it is clear whether their roles are still important in explaining public education reform at the local level. It is an academic contribution of this study to empirically confirm their roles in the local public education reform. This study explores this unexploited research topic by analyzing the variation of the public education reform case that is shown in Colorado's school districts. To complete this academic goal, this study constructs seven hypotheses and tests them with a statistical tool. The final statistical results reveal that both neighboring school district and governance factors drive a school district to more actively reform its own traditional public education system. On the other hand, the concept of charter school introduced as an example of an innovative educational institution is expected to provide a new guideline for the Korean education reform.

Keywords: Local public education reform, competition principle, school districts, mimetic isomorphism factor, social equity

## I. Introduction

Since the 1990s, the public education reform topic has been very popular in the government reform movement across the United States. Its main goal is to change and reform a traditional public education system that is embedded in the centralized

governance style (Buckley & Schneider, 2007; Chubb & Moe, 1990). Several public education reform advocates have provided a blueprint for government reform through the school choice movement. Among them, Osborne and Gaebler have been recognized as a pathfinder who proposed a guideline of American government reform in the early 1990s (Frederickson, 1996; Rusaw, 1997; Kettl, 2002; McLaughlin et al., 2002). Mentioning the contents of the school choice movement in their influential book—*Reinventing government: How the entrepreneurial spirit its transforming the public sector*—in 1992, they have emphasized changing the monopolistic governance style to the competitive governance style (Denhardt & Denhardt, 2007; Howard & McDermott, 2016).

Osborne and Gaebler (1992) introduced the contents of the school choice movement (SCM) and highlighted the competitive spirit to succeed in American government reform. There are several innovative educational institutions to support the school choice movement. They are charter schools, school vouchers, homeschooling, open enrollment, magnet schools, etc. These innovative educational institutions make schools in the traditional public education system more competitive.<sup>1)</sup> In the competitive environment, education customers can enroll in a school that provides them with education services that they want to receive from a school.<sup>2)</sup> This means that if a school cannot offer a good education service to education customers, the school has no choice but to lose its students and can no longer exist in the public education system. Therefore, a school as an education provider must develop its particular strengths and goals that can attract or satisfy education consumers. The school choice movement advocates indicate that these school efforts improve an education service quality and make an education circumstance better. That is to say, this competitive circumstance that the school choice movement emphasizes leads to further improvement of students' academic achievements by providing education customers with better education circumstances. Based on the competition spirit of the school choice movement, the government reform pundits describe a direction of public education reform (Chubb & Moe, 1990; Friedman & Friedman, 1990; Lubienski, 2003; Porter-Magee, 2014).

Currently, the degree of American public education reform has varied from a jurisdiction to a jurisdiction such as a school district since the aforementioned innovative

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<sup>1)</sup> In this article, the author refers to the term innovative educational institution as a new educational tool that helps facilitate the school choice movement.

<sup>2)</sup> The term competitive environment can be described as a situation where educational suppliers provide more education services to educational demanders for their own survival.

educational institutions have expanded across the USA. This study focuses on analyzing why this variation appears among school districts, where an innovative educational institution is practically conducted. The current picture of local public education reform shows that the wide variation in conducting public education reform exists in school districts. That is to say, some school districts actively conduct their own public education reform by providing their education customers with innovative educational institutions while others do not. This article aims to empirically examine why this variation (gap) of public education reform occurs in school districts.

## II. Literature Review

### 1. School Choice Movement in Public Education Reform

School choice movement scholars highlight that innovative educational institutions are a good tool facilitating the American government reform (Carey, 2012; Forman, 2005; Mintrom, 2000). Their primary logic is that the competitive circumstance must be the main content for reforming the traditional public education system (Berends et al., 2010; Friedman & Friedman, 1990; Howard, 2017). The competition spirit embracing the concept of the market-based approach drives an educational organization to provide education customers with better educational services because the competitive circumstance leads a public school in the traditional public education system to try to make their education services' quality better for its own survival (Buckley & Schneider, 2007; Logan, 2018; Schneider et al., 2000).

A main cause that the school choice movement started in the USA is that American student achievements are lower than other countries' student achievements (Forman, 2005; Hess, 2008; Howard, 2017; Walberg, 2007). The Program for International Student Assessment ranks 24<sup>th</sup> in science and 38<sup>th</sup> in math among 71 advanced countries in 2015 (Desilver, 2017). These American student achievement results do not match the rankings of the US economy and military power, which have maintained the highest ranking in the world. Many educational scholars and leaders have found a cause of the poor achievement results of American students through the monopolistic characteristic of the traditional public education system (Abernathy, 2005; Chubb & Moe, 1990; Tucker, 2017). The school

choice movement advocates stress that the monopolistic characteristic of the traditional public education system makes a public school just follow a government guideline. Namely, a public school in the monopolistic traditional public education system cannot be an active entity that creates curricula to develop a student's inborn gifts and offer better education services to students. Thus, the school choice movement advocates highlight that in order to improve poor achievements of students, it is necessary for the traditional public education system to change from a monopolistic entity to a competitive entity (Friedman, 2002). In the competitive circumstance, public schools must provide better educational services to their education customers in order for them to survive (Chubb & Moe, 1990; Schneider et al., 2000).

The school choice movement advocates have introduced some innovative educational institutions such as charter schools, open enrollment, home schooling, magnet schools, etc. to make the traditional public education system to an active entity responding to a competitive circumstance (Buckley & Schneider, 2007; Schneider et al., 2000). Among these innovative educational institutions, many school choice movement scholars do not hesitate to introduce a charter school as the most representative education institution in conducting the American public education reform.

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Charter schools have been steadily widespread across the USA since Budde and Shaker first explained the concepts of charter school to people interested in public education reform in the late 1980s (Kolderie, 2005; Renzulli, 2005; Sass, 2006). In 1991, Minnesota became the first state that adopted charter school law among 50 states and Washington, D.C. (Buckley & Schneider, 2007; Vergari, 2007). As of 2018, 45 jurisdictions including Washington, D.C have adopted charter school law. And, they have used charter schools to reform their monopolistic public education system. In the USA, charter schools have generally been regarded as the most representative educational institution for public education reform (Bifulco & Buerger, 2015; Teske & Schneider, 2001; Wong & Langevin,

2007; Wronkovich, 2000). The school choice movement scholars declare that the charter school growth has been very impressive during the past 30 years. This expansion has been possible because charter schools have fulfilled their roles in reforming the American monopolistic public education system. Currently, this steady spread of charter schools across the USA has generated the broad variation in reforming the traditional public education system at the local level. That is to say, some school districts more actively reform their traditional public education system by operating charter schools while others do not. Based on this present variation shown in charter school operation, this study empirically examines what factors lead a school district to more actively reform their own public education system.

## 2. Theoretical Backgrounds and Hypotheses

### 1) Mimetic Isomorphism

Several scholars (Lee, 2014; Renzulli & Roscigno, 2005; Wong & Langevin, 2007) have applied the mimetic isomorphism logic into their research to find a primary cause of the American public education reform. In their studies, the term imitation is highlighted in explaining a government reform phenomena. They define the term imitation as an actor's resemblance to other actors with previous experiences that the actor pursues.<sup>3)</sup> Rogers (2003) also stresses that an actor's imitation is the heart of both innovative institution's adoption and operation processes that are fundamental in government reform. Namely, an actor adopts and operates an innovative institution through an imitation following the actions of other actors who have already adopted and operated the same innovative institution (Balla, 2001; Berry & Berry, 1994, 2007; Makse & Volden, 2011). Rogers' perspective for imitation has been applied into several studies to analyze innovative institution adoption and implementation phenomena.

The logic of mimetic isomorphism emphasizes a contiguous actor's influence in explaining why an actor adopts or implements an innovative institution. DiMaggio and Powell (1983) demonstrate that an actor is more likely to adopt or implement an innovative institution because of the influence of a contiguous organization. DiMaggio and Powell (1983) argue that an actor has an attribute of wanting to follow, imitate, or

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<sup>3)</sup> The word actor includes several entities—individual, organization, local government, state government, etc.—that are the subject of the outcomes of government activities (Walker, 1981).

resemble other actors that have successfully experienced a similar innovative innovation. Thus, that an actor adopts or operates a new innovative institution is dependent on the influence of other close actors (Tingling & Parent, 2002).

Meanwhile, Berry and Berry (1990, 2007) have also highlighted the contents of mimetic isomorphism through the regional diffusion model in explaining government outcomes such as innovative institution adoption or implementation. The main logic of the regional diffusion model is that a neighboring actor influences on an actor's actions. Their studies prove that when a jurisdiction such as a state adopts and implements an innovative institution, the jurisdiction follows and imitates other jurisdictions that are geographically contiguous and have a successful experience for a similar innovative institution. They explain that a jurisdiction's imitation phenomena appear because of influence of contiguous jurisdictions. Namely, a jurisdiction accepts and conducts a successful innovative institution through imitation. Therefore, it is necessary to examine the influence of a contiguous jurisdiction in empirically examining mechanisms of a jurisdiction's outcomes such as government reform or innovative institution operation (Hageman & Robb, 2011; Renzulli & Roscigno, 2005; Wong & Langevin, 2007).

Both mimetic isomorphism and regional diffusion perspectives offer an intellectual clue to this study's research question as follows: There is a possibility that a school district as a local government more actively conducts its own public education reform when it has a neighboring school district that gives information for a specific educational innovation. Thus, it is hypothesized that a school district with many contiguous school districts that have previously experienced the same new innovative institution such as a charter school more actively conducts its own public education reform.

## 2) Governance Model

In the public administration area, the terminology of networked governance is very popular in studying mechanisms of a public organization's outcomes such as government reform or public service delivery. Networked governance means a governance style that actors—individuals or organizations—are connected with each other to accomplish the same goals (Aldrich, 2008; Lubell et al., 2002; Provan & Milward, 2001; Scott, 2000). Actors in networked governance help collaborate with each other to accomplish a specific goal. Namely, they are regarded as cooperative entities (Borgatti & Foster, 2003; Freeman, 2004; Granovetter, 1982).

The main strength of networked governance is to provide an academic clue as to why actors attempt a new challenge such as government reform (Cohen & Horev, 2017; Moyo & Modiba, 2013; Shearer et al., 2016). Networked governance is premised on the interaction of interdependent actors (Aldirich & Whetten, 1981; Granovetter, 1973, 1982; Scott, 2000). Actors in networked governance can develop through other actors' help. That is to say, in networked governance, it is fundamental for an actor to obtain information or resources from other actors that pursue the same goal. Some scholars (Aldirich & Whetten, 1981; Burt, 2000) indicate that an actor is an entity that is naturally accustomed to exchanging information or resources with other actors. Granovetter (1973, 1982) and Scott (2000) explain that ties (links) that connects actors to each other are a main tool that enables such information and resource exchange.

Several public administration scholars (Bressers & O'Toole, 1998; Meier & O'Toole, 2001; Provan & Milward, 2001) demonstrate that networked governance constructed by interdependent actors—individuals and organizations—promotes government reform because interdependent actors in networked governance can obtain more information related to government reform than actors in isolated governance. To confirm the influence of networked governance on local government reform, this paper tries to prove if networked governance has influence in reforming educational entities such as school districts. A school district is an important educational entity where there are bureaucrats who decide to choose or implement an innovative education institution for government reform. Thus, a school district is a main public educational entity conducting public education reform at the front line.

Meier and O'Toole (2001) state that a school district can do its public education reform through collaborating with other organizations. They explain that a school district is a public education entity that is used to collaborating with other organizations in adopting or implementing an innovative educational institution that helps its own public education reform. That is to say, they define a school district as an educational entity that is embedded in networked governance. This means that it is normal for a school district to collaborate with other actors in conducting its own public education reform. Therefore, it is hypothesized that a school district having strong networked governance with other public education organizations working for public education reform is more likely to conduct its public education reform.

### 3) Attributes of School Districts

Several public administration and policy scholars (Berry & Berry, 2007; Teske et al., 2006) stress that scholars must investigate explanatory influence of the attributes of a jurisdiction in order to obtain more accurate research results on public administration phenomena. They explain that diverse government actors such as local governments, or state governments produce their actions and outcomes according to their own needs and resource conditions, which are called the attributes of jurisdictions (O'Hare, 1989; Ostrom, 2011; Tyran & Sausgruber, 2005). In this study, five explanatory factors are employed to cover the attributes of jurisdictions. And, five hypotheses are made on them.

#### (1) Innovative Educational Institutions

There are some innovative educational institutions facilitating public education reform in the USA. They are also regarded as educational institutions that support the school choice movement. This study wonders if other similar innovative educational institutions lead a school district to conduct its own public education reform. Sociological neo-institutionalism provides an academic rationale for this research question. Its scholars argue that actors—individuals or organizations—more actively to adopt and apply an innovative institution if they have had experiences through similar innovative institution in the past. Sociological neo-institutionalists express this experience as the jargon of cognitive legitimacy. The term cognitive legitimacy means that an actor has a positive and good feeling or evaluation for a new institution through their past experience for similar institutions (Hannan & Carroll, 1992). Namely, the sociological neo-institutionalists stress that actors accept and use a new innovative institution if they have high cognitive legitimacy obtained through other similar innovations.

In this perspective of cognitive legitimacy, previous experiences for other similar innovative institutions become a main factor driving an actor to accept and use an innovative institution (Husted & Folger, 2004). The main role of cognitive legitimacy is to reduce an actor's resistances for a new innovative institution through previous experiences of similar innovative institutions. Finally, this role of cognitive legitimacy helps actors decrease transaction costs when they adopt or conduct a new innovative institution. Therefore, an actor having high cognitive legitimacy for a new innovative institution through similar innovative institutions more easily and actively adopts or conducts a new innovative institution.



Renzulli (2005) has proved the role of cognitive legitimacy for a new innovative institution in her study. She demonstrates that a jurisdiction that has already experienced open enrollment laws more actively adopts its own charter school law. This study result shows that a school district that has previously experienced other similar innovative educational institutions has high cognitive legitimacy for a new innovative educational institution leading a school district's public education reform. Thus, it is hypothesized that a school district with previous experiences for other similar innovative educational institutions more easily and actively conducts its own public education reform.

### (2) Residents' Income and Educational Level

Some scholars (Buckley & Schneider, 2007; Teske et al., 2006) discover that government reform is strongly related to residents' socioeconomic status. This proposition is shown in the school district case. Residents with high socioeconomic status can obtain more information about a school in their residential area than residents with low socioeconomic status. Usually, residents who obtain better and more information about schools request more various and better educational services to public educational organizations such as a school district (Chubb & Moe, 1990). Teske and his colleagues (2006) show that a jurisdiction with many high-educated and rich residents must meet multiple educational demands of residents. Schneider et al. (2000) also explain that high-educated and rich residents can obtain better school information through networks that they construct and manage. Namely, a school district with many residents having higher socioeconomic status meet more requests for education services from residents.

Based on these research results, we can make two hypotheses related to socioeconomic status as follows: 1) it is hypothesized that a school district with many residents earning high income more actively conducts its own public education reform and 2) it is hypothesized that if a school has many high-educated residents, the school district more actively conducts its own public education reform.

### (3) Minority Students

There are a lot of minorities in the USA (Alba, 2018; Levy, 2010; Pollard & O'Hare, 1999). They are also a main policy actors that influence the policy process in multiple government areas. Thus, it is general for a local, state, and federal government in the USA to try to reflect the opinions of minorities when formulating or implementing a public

service or public policy, which is might be associated with the benefits of each minority group (Good & Braden, 2000; McCormick, 2012).

In the case of public education reform, educational authorities try to provide minority education customers with better educational services. That is why there are many education demands from several minorities that occupy the bottom part of the social pyramid in the USA (Kraus et al., 2017; Levy, 2010; Wodtke, 2015). Minorities in the USA believe that education is one of the best ways to make their social position higher and make their lives more stable (Berger & Archer, 2015; Life, 2015). They know that successes through education give an individual economic wealth, fame, and power. Therefore, we can assume that minorities ask an educational authority for offering more education services to their children.in order to make their future lives better.

This view to minorities in the public educational area leads us to one assumption that a school district with many minority residents must make many chances to provide their minority residents with more education services (Friedman et al., 2006; Good & Braden, 2000; Levy; 2010). Stoddard and Corcoran (2007) support this view through their research results, which prove that a school district with many black residents more actively conducts its public education reform by offering an innovative educational institutions to black residents. Therefore, it is hypothesized that a school district with many minority residents in its own territory is more likely to conduct its public education reform.

#### (4) Student Performance

There are many causes to drive a school district to attempt its public education reform. Among them, low performance of students in its territory might be a major cause (Cullen et al., 2005; Gill, 2001; Mintrom, 2000). It is usual for students and their parents as an education customer to ask their school districts to provide innovative educational institutions to them when students' performance is low. Mintrom and Vergari (1998) support that low performance of students at the state level is a major cause driving a jurisdiction to reform itself by adopting an innovative educational institution such as charter schools. Their research demonstrates that a jurisdiction with low Scholastic Assessment Test (SAT) scores of its students more actively passes its own charter school law. This research result means that low performance of students facilitates a jurisdiction to reform itself by accepting and conducting an innovative educational institution. Meanwhile, Stoddard and Corcoran (2007) discover this similar research result at the local

level. Their study proves that a school district faces a lot of pressure for its own government reform due to a high student dropout rate.

Based on these study results, it is hypothesized that a school district is more likely to conduct its public education reform by operating an innovative educational institution such as charter schools if its students' performance is low.

### III. Research Design

#### 1. Response Variable

In this research, the response variable is the variation of local governments' public education reform. The proxy of the response variable is the rate of charter schools to all schools in each school district. For this, the author uses school districts as the units of analysis. In the USA, a local government embraces cities, counties, and school districts. This study chooses Colorado's school districts as a sample and completes dataset through them.

Colorado has 178 school districts. This means that the sample size of this study is 178. Colorado's law-makers legislated the Colorado Charter School Act in 1993 (Griffin, 2013; Hirsch, 2002). The Colorado League of Charter Schools (2017) reports that 183 charter schools are established and operated across Colorado. 183 charter schools are nearly 10% of the total Colorado's K-12 public schools. And, approximately 114,000 students study in these charter schools. They are nearly 10% of the whole number of students in public schools in Colorado. Dataset shows that among 178 Colorado's school districts, the Denver County 1 has the largest number of charter school by offering its students 31 charter schools. The response variable of this study is estimated by dividing the total charter schools by the total public schools in each school district.

#### 2. Predictor Variables

The conceptual definition of the mimetic isomorphism is the influence of other contiguous jurisdictions when a jurisdiction adopts or implements a specific institution. Thus, the mimetic isomorphism (MEIS) predictor variable is measured by dividing the total

number of neighboring school districts that have already established and operated charter schools by total number of neighboring school districts. Data for neighboring school districts are obtained from the Colorado Department of Education (CDE). It is expected that this mimetic isomorphism (MEIS) predictor variable has a positive association with the response variable. The governance (GONE) predictor variable is estimated by the degree of network density made by each school district and public education organizations that work for Colorado's public education reform through charter schools.<sup>4)</sup> The degree of network density is obtained by analyzing survey responses related to network density through UCINET 6.<sup>5)</sup> It is expected that this governance (GONE) predictor variable has a positive association with the response variable.

Measurements of five predictor variables covering the attributes of school districts and their expected directions for the response variable are described as follows; 1) The innovative educational institutions (IEIS) predictor variable is measured by dividing the total private schools by the total public schools in each school district.<sup>6)</sup> It is expected that this IEIS predictor variable has a positive association with the response variable. 2) The resident income (RDIE) predictor variable is estimated by the logged average per capita income of each school district. It is expected that this RDIE predictor variable has a positive association with the response variable. 3) The resident educational level (RDLE) predictor variable is measured by the percentage of residents with an undergraduate degree or higher degree in each school district. It is expected that this RDLE predictor variable has a positive association with the response variable. 4) The minority students (MTST) predictor variable is estimated by the logged number of total minority students in each school district. It is expected that this MTST predictor variable has a positive association with the response variable. 5) The student performance (STPE) predictor variable is measured by the percentage of K-12 students' dropouts of each school district.

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<sup>4)</sup> A literature review shows that there are seven public education organizations working to deliver charter school services to education demanders in Colorado. They are Colorado Children's Campaign, Education Leadership Council, Colorado Department of Education, Colorado Education Association, Colorado Charter School Institute, Colorado League of Charter Schools, and Best Board.

<sup>5)</sup> In this study, network density is used to measure the governance (GONE) predictor variable because it is a proper tool to estimate how closely each school district and seven public education organizations working for charter schools are connected. And, UCINET 6 is employed to calculate a value of network density among each school district and the aforementioned public education organizations. Its analyzed results show that the Pueblo City 60 school district and the Mesa County Valley 51 school district have the strongest network density (0.839).

<sup>6)</sup> Schneider et al. (2000) and Vergari (2002) employ a private school as a proxy to measure a charter school in their studies.

It is expected that this STPE predictor variable has a positive association with the response variable.

**〈Table 1〉 Expected Direction and Measurement of Each Predictor Variable**

Predictor Variables	Measurement	Direction
Mimetic Isomorphism (MEIS)	Rate of neighboring school districts already having charter schools divided by total neighboring school districts	positive
Governance (GONE)	Degree of network density among a school district and public education organizations	positive
Innovative Educational Institutions (IEIS)	Ratio of total private schools divided by total K-12 public schools	positive
Residents' Income (RDIE)	Logged average per capita income of each school district.	positive
Residents' Educational Level (RDLE)	% of residents with a bachelor or higher degree in each school district	positive
Minority Students (MTST)	Logged # of total minority students in each school district	positive
Student Performance (STPE)	% of K-12 students' dropouts of each school district	positive

Note: Response variable (VPER): Variation of public education reform of each school district

### 3. Statistical Technique

The main goal of this study is to seek an explanatory factor that drives a school district to attempt its public education reform. Using seven hypotheses embracing the contents of mimetic isomorphism, governance, and the attributes of a school district, this article looks at a more definite response to the research topic. The overall equation model made based on seven hypotheses is as follows:

$$VPER = \alpha + \beta_1 MEIS + \beta_2 GONE + \beta_3 IEIS + \beta_4 RDIE + \beta_5 RDLE + \beta_6 MTST + \beta_7 STPE + \varepsilon$$

(Note: VPER=Variation of public education reform of each school district; MEIS=Mimetic isomorphism; GONE=Governance; IEIS=Innovative educational institutions; RDIE=Residents' income; RDLE=Residents' educational level; MTST: Minority students; STPE=Student performance)

This study applies the multiple least ordinary square (OLS) regression analysis technique to test this overall equation model. It is reasonable to use the multiple OLS regression analysis technique to seek a definite answer to the research question because seven

predictor variables and one response variable in the final equation model have a continuous characteristic, which is expressed as the ratio level of measurement (Babbie et al., 2013; Hair et al., 2010; Remler & Van Ryzin, 2011).

#### IV. Statistical Results

The analyzed statistical results are shown in <Table 2>. First of all, <Table 2> describes the results checking a multicollinearity issue of each predictor variable. Some scholars (Gujarati, 2003; Remler & Van Ryzin, 2011) highlight that a serious multicollinearity issue among predictor variables produces a statistically wrong result. Therefore, they recommend a researcher to confirm if each predictor variable in an equation model has a possibility of a multicollinearity issue before she or he operates various multivariate analysis techniques. Both variance inflation factor (VIF) and tolerance level play a main role as statistical functions that check if a predictor variable in an equation model has a multicollinearity issue for other predictor variables.

The statistical results of both VIF and tolerance level of each predictor variable are shown in <Table 2>. Their analyzed results indicate that any predictor variables in the final equation model do not have any serious multicollinearity issues because the values of all predictor variables' VIF are less than 10 and the values of tolerance of all predictor variables are greater than 0.1. These results mean that any pairs of predictor variables composed of the final equation model do not have a perfect linear relationship. Therefore, we can know that the multiple OLS regression analysis used for this study offers more accurate answers to the research question because the statistical results of both VIF and tolerance level show that there is little possibility that seven predictor variables in the final equation model have the same or similar information that other predictor variables have.

The final analyzed results of the multiple OLS regression analysis are as follows. First of all, there are the 125 valid cases that do not include any missing values. Indicating that Chi-square of 14.578 with 0.01 of a p-value, Table 2 describes that the final equation model combining seven predictor variables significantly predicts the variation of the response variable (the variation of public education reform of each school district). 0.432 of adjusted R2 shows that seven predictor variables account for nearly 43% of the variation

in the response variable.

Among seven predictor variables that are employed as a potential explanatory factor in this research, two predictor variables are statistically significant at 0.01 level. They are the mimetic isomorphism (MEIS) and governance (GONE) predictor variables. But, the rest of the predictor variables are not statistically significant. As presumed in each hypotheses, the directions of the two statistically significant predictor variables have positive relationships with the response variable.

The unstandardized coefficients of two statistically significant predictor variables show how each predictor variable accounts for the response variable. The unstandardized coefficient of the mimetic isomorphism (MEIS) predictor variable is 0.099, which accounts for that an increase of one unit for the mimetic isomorphism (MEIS) predictor variable results in an expected increase in 0.099 of the response variable when other predictor variables are held constant. Generally speaking, this interpretation means that a school district with more contiguous school districts that have already had experience using the same innovative educational institution more actively conducts its own public education reform. Second, the unstandardized coefficient of the governance (GONE) predictor variable is 0.386, which accounts for that an increase of one unit for the governance (GONE) predictor variable results in an expected increase in 0.386 of the response variable when other predictor variables are held constant. Generally speaking, this interpretation means that a school district having strong governance with the other public education organizations working for public education reform more actively conducts its own public education reform.

Meanwhile, the standardized coefficients of the mimetic isomorphism (MEIS) and governance (GONE) predictor variables indicate that the governance (GONE) predictor variable has the stronger explanatory power than the mimetic isomorphism (MEIS) in accounting for the response variable by showing the value of the GONE predictor variable's standardized coefficient is bigger than the MEIS predictor variable's.

〈Table 2〉 Results of Multiple OLS Regression Analysis Technique

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF	Tolerance
	B	S.E.	Beta				
MEIS***	0.099	0.030	0.277	3.341	0.001	1.517	0.659
GONE***	0.386	0.118	0.303	3.264	0.001	1.896	0.528
IEIS	0.049	0.041	0.093	1.195	0.234	1.324	0.755
RDIE	0.019	0.026	0.076	0.716	0.475	2.480	0.403
RDLE	0.001	0.001	0.151	1.329	0.186	2.836	0.353
MTST	0.003	0.003	0.081	0.891	0.375	1.804	0.554
STPE	-0.002	0.003	-0.050	-0.655	0.514	1.297	0.771
Constant	-0.463	0.261			0.079		
N	125						
F-statistic (7, 118)***	14.578						
Adjusted R-square	0.432						

Note: \*\*\* significant at 0.01 level; \*\* significant at 0.05 level; \* significant at 0.1 level

Response variable: Variation of public education reform of each school district

Predictor variables: MEIS=Mimetic isomorphism; GONE=Governance; IEIS=Innovative educational institutions; RDIE=Residents' income; RDLE=Residents' educational level; MTST: Minority students; STPE=Student performance

## V. Conclusions and Implications

Public education reform in the USA has been conducted by the competition principle of the school choice movement (Logan, 2018; Osborne & Gaebler, 1992). Public schools in monopolistic public education system are generally used to following government's guidelines and ordinances. This means that a public school in the monopolistic education system does not try to provide education customers with better education services or education environments by itself because even if a public school does not its best for education customers, it can survive through governments' supports. The school choice movement advocates argue that this monopolistic circumstance of American public education system is a main cause leading American education performance to get worse. Thus, they believe that making the American educational system a competitive circumstance is the best way to improve American education performance.

Since the 1990s, the school choice movement advocates have actively introduced several innovative educational institutions to make the American public education system more competitive. These days, their efforts have shed light on the improved students'



performance results. Innovative educational institutions that they introduced for the American public education reform have steadily expanded across the USA. And, this expansion of innovative educational institutions has produced a broad variation of public education reform at the local level. To find a more precise answer to this public education reform phenomenon, this study employs the charter school case as the measurement of public education reform and uses school districts as this study's units of analysis. Finally, this study found two explanatory factors—mimetic isomorphism factor and governance factor—leading a school district to conduct its own public education reform.

Regarding the contents of the mimetic isomorphism explanatory factor, the final result proves that a neighboring school district has a positive influence in leading a school district to attempt its public education reform. Namely, this research result supports that a geographical factor plays a pivotal role in accounting for local public education reform's mechanisms. This means that indirect learning experiences from contiguous school districts lead a school district to more actively conduct its public education reform by reducing worries of a new risk-taker who attempts a new innovative educational institution.

Based on the result for the explanatory power of governance on the variation of the local public education reform, this study reveals that a school district having strong governance with other public education organizations, which work for Colorado's public education reform, more actively conducts its public education reform by establishing and operating more charter schools for its education customers in its own territory. Some scholars mention that actors can much easily obtain information through governance that is made by a school district and other public education organizations. That is to say, a school district more actively conducts its own public education reform because a school district can decrease transaction costs through governance in obtaining information necessary for public education reform.

First of all, this study contributes to introducing the concept of school choice as an exemplar of public education reform into Korea. As mentioned in the introduction, Korean public administration scholars have so far been more aware of the theoretical principles than the practical cases of Osborne and Gaebler's government reform. This academic fact has made the research of Korean public administration scholars' government reform confined to theoretical studies rather than empirical studies. Thus, the introduction of the school choice movement explained in this article plays a role in

helping Korean public administration scholars empirically conduct government reform research with a new academic approach.

On the other hand, this article helps expand the spirit of the school choice movement from the market-oriented principle to the social value-oriented principle by explaining the concept of social equity embedded in a charter school. A charter school has been introduced as an innovative educational institution facilitating the concepts of both education reform and education welfare service (Eden, 2020; Manno et al., 1999; Wells et al., 2002). In the USA, a charter school has played a role as an educational institution developing the value of social equity by providing more education services to students from the disadvantaged such as the disabled students, minority students, or students in poor families. Currently, the concept of social equity has been a main social agenda in Korea since the Moon Jae-In administration, a progressive government, was launched in 2017. Thus, a charter school introduced in this study could play a role as an exemplar of an innovative educational institution in boosting and achieving social equity in the public education field of Korea.

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## 〈국문초록〉

## 지방 공교육개혁에 대한 결정요소

본 논문의 목적은 지방정부인 교육구(school districts)가 공교육개혁을 적극적으로 추진하는 이유를 분석하는 것이다. 본 연구를 실증적으로 분석하기 위해서 모방적 동형화(mimetic isomorphism)요소, 거버넌스(governance)요소, 그리고 교육구의 다섯 가지 특징적 요소를 활용하여 일곱 개의 가설을 만들었다. 그리고 콜로라도 교육구를 연구분석단위로하여 178개를 표본으로 하는 데이터 셋을 구축하였다. 종속변수는 공교육개혁의 주요 기제인 차터스쿨(charter schools)의 비율 값을 통해서 측정하였으며 다중회귀분석을 통해서 최종방정식모델을 분석하였다. 통계분석결과는 모방적 동형화 요인과 거버넌스 요인이 교육구의 공교육개혁을 이끄는 주요 요인임을 확인시켜주고 있다. 한편 본 연구에서 지방 공교육개혁 사례로서 소개한 차터스쿨은 지방 공교육개혁을 추진하는데 있어서 새로운 하이브리드형 교육모델을 제시하고 있으며 우리나라의 미래 교육개혁의 다양성을 확장하는데 있어서 좋은 정보를 제공해 줄 것으로 기대된다.

주제어: 지방 공교육 개혁, 경쟁 원리, 교육구, 모방적 동형화 요인, 사회적 형평