

**Determinants of the Sustainability of Intangible Cultural Assets
Conservation in South Korea: Focusing on the IAD Framework Under the
Rational Choice New Institutionalism.**

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**Determinants of the Sustainability of Intangible Cultural Assets Conservation in South Korea:
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<ABSTRACT>

The ‘cultural commons’ like intangible cultural assets have been extensively researched. From the viewpoint of public choice, these cultural commons studies of intangible cultural assets have been providing the remedies for effectively governing them. How can we pass down our disappearing intangible cultural assets to descendants in the right direction? The purpose of this paper is to explore the determinants of the sustainability of intangible cultural assets conservation in Korea and suggest policy implications for intangible cultural assets governance. The theoretical underpinnings are the Institutional Analysis and Development framework for visualizing the Rational Choice New Institutionalism with multiple level analyses developed by Professor Elinor Ostrom and her colleagues.

Our research model includes three independent variables (rules and institutions of intangible cultural assets governance, physical & community attributes), one intermediate variable (action arena), and one dependent variable (sustainability of intangible cultural assets conservation). To test seven hypotheses, questionnaire survey was conducted.

Our major empirical findings by the AMOS statistical package and detailed policy implications are as follows. Firstly, the rules and institutions, physical & community attributes, and action arena of intangible cultural assets governance have affected in a configurational way the sustainability of intangible cultural assets conservation through action arena interaction. Secondly, the rules and institutions have most directly influenced the sustainable conservation of intangible cultural assets. However, current Korean formal laws and policies of intangible cultural assets have many issues such as the designation and

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discharge of national intangible cultural assets, recognition of possessors, and operation of Cultural Properties Committee due to diverse laws, overlapping policies, and local rules. Therefore, collective and constitutional rules should be re-designed. At the collective choice level, the current Korean intangible cultural assets related Laws and Acts should be revised for effective intangible cultural assets governance. Finally, at the constitution choice level, basic principles should be institutionalized in the Korean Constitution to preserve sustainable intangible cultural assets along with high evaluation of the future value of intangible cultural assets.

I . Introduction

Intangible cultural assets are the resources whose values have been very highly evaluated in a historical, artistic, and cultural dimension due to diverse change in accordance with the flows of the times. The cultural identity of intangible cultural assets should be reflected through the continuous conservation as important intangible resources. In spite of these facts, however, the management and conservation of them seems to be very difficult in reality due to their characteristics of cultural commons. Since all the knowledge and culture of local residents such as traditional skills and handicrafts can't be opened to all as public goods, intangible cultural assets should be viewed as the cultural commons in order to minimize conflicts among stakeholders and make rational decisions (Walljasper, 2010).

The Commons studies have recently focused on social resources such as knowledge, fashion, language, and arts along with natural resources such as forests, pastures, agricultural lands, fisheries, irrigation systems, and water resources. Under the category termed as the 'cultural commons', cultural resources such as intangible cultural assets have also been recognized as the commons and these new commons have become increasingly more complex than existing commons along with the transformation of existing rules and norms. From the viewpoint of public choice or political economy, these studies of intangible cultural assets as the commons have been contributed to identifying the remedies for effectively managing the commons resources.

In relation to South Korean policies for intangible cultural assets, on the other hand, there has not been conducted much research of institutional and environmental factors for the sustainability of conservation of intangible cultural assets. Most of domestic studies have tended to focus on institutional improvement and support of the legal aspects of intangible cultural assets.

Based on the necessity and background of these studies, the purpose of this study is to explore the institutional and structural factors that affect the sustainability of South Korean intangible cultural assets conservation with the institutional analysis and development (IAD) framework under the New Institutionalism developed by Elinor Ostrom(1990, 2015) and her colleagues and suggest the newly institutional arrangement or design to maintain the sustainable intangible cultural heritage resources. To test the causal relationships between the major institutional factors (physical attributes, community attributes, rules or institutions) and the sustainability of intangible cultural assets conservation, seven hypotheses were specified and empirically tested by AMOS statistical package through the questionnaire survey. Finally, major theoretical implications and policy remedies were discussed.

II. Theoretical Reflections and Previous Studies

1. Intangible Cultural Assets as the Commons

The commons are goods with characteristics of exclusion-difficulty of potential users and subtractability (rivalry) of use that efficient usage and management are required.³ It is difficult to effectively use and manage the commons by rational individuals due to two issues of 'appropriation problems' and 'provision problems' shown from characteristics of commons in the common situations. This is eventually led to the tragedy of the commons defined by Hardin(1986), causing 'social dilemma' (Ostrom, 2005: 80).⁴ Many of the scholars researching the commons have been making an effort to suggest diverse alternatives to effectively use the commons, and 'intangible cultural assets' are also the subject of research to be protected and managed as the commons.

Recent studies about commons have been suggested with new forms of the commons created by humans in societies such as Internet, fashion, art, and digital (Bertacchini, 2012:12). Such new commons have characteristics of existing commons such as non-excludability and subtractability. However, they tend to be more complex and diverse. Researching the culture as the commons is useful to derive major factors that influence on the production and development of cultural expression and social dilemma. However, the range of culture is very wide. A culture exists in the tangible form such as drawing or construction and also intangible form such as music or dance. In other words, the culture as the commons is available to be realized in tangible and intangible forms and produces symbolic and aesthetic values. Research on the cultural commons is helpful to provide new and wide range of perspective for producing culture.

Cultural commons have different characteristics from the commons defined by Ostrom. In general, the commons are shared and used by many of the individuals and cannot exclude potential users. Non-excludability of commons causes free riders and social dilemma. Cultural commons can be enjoyed in the form of music, poem, dance, performance, and game without restrictions. They are shared by individuals and shown as a common resource. However, the total amount of cultural commons have

3 A common-pool resource, such as a lake, an ocean, an irrigation system, a fishing ground, a forest, the Internet, or the stratosphere, is a natural or man-made resource from which it is difficult to exclude or limit users once the resource is provided by nature or produced by humans (Ostrom, 2005: 79).

4 Social dilemma means when social reasonability is not achieved by individuals' behaviors based on their reasonableness. (Messick and Brewer, 1983).

not been reduced like public goods.⁵ Therefore, unlike other commons with an issue of depletion by subtractability (competition), the cultural commons non-competitive features.

On the other hand, the cultural commons do cause social dilemma. If individuals take benefits from enjoying or trading culture for free without contributing to the culture, there will be uncertainty of succession in terms of re-production of cultural resources. For example, one case shows that many of the tourists have tended to come to the famous festival as a local festival from the past, but the festival that has traditionally been performed from the past became famous, but festival was suspended due to irrational bench-marking from other areas and damage by tourists (garbage, environmental pollution, and invasion of privacy of residents). The reckless usage of cultural resources in the name of local festival has ended up damaging the local community and depleting the ideas to overcome the gridlock on sustainable conservation. Afterwards, residents and local governments have been making an effort to manage and protect local festival through autonomous regulations (collection of fees, protection of intellectual property, and support of festival operation).⁶

Bertacchini(2012:18) has suggested that there would be uncertainty in succession in the next generations in terms of re-production of cultural resources for failing to maintain culture if taking benefits from freely adopting or trading tangible or intangible culture. In addition, he has insisted that there might be cultural gridlock such as disappearance or separation without coming up with new ideas as cultural community is not established. Intangible cultural assets have complex and multi-faceted characteristics, and user groups also have features of commons as a by-product of community.⁷ Their intangible by-products are also the goods which are in need of management and

5 Unlike typical common-pool resources characterized by exhaustion problems due to limited carrying capacity cultural commons are non-rival in consumption. A cultural tradition, music, or a poem can be consumed, played and listened to without any limit (Bertacchini et al, 2012).

6 The Cheese Rolling Festival in England is that a winner is the one who rolls about 4kg of cheese on a steep hill and catches the cheese ahead of other. It is a traditional festival that has been performed in Gloucester for over 200 years. Many of the people tend to be hit and tumbled much, and high risk, garbage, noise issues, and other civil complaints made the festival almost abolished. However, autonomous community, cultural group, and residents made the regulations to manage safe and joyous festival after recognizing the importance of it so that the Cheese Rolling Festival has still being performed (Bertacchini et al, 2012).

7 Intangible cultural assets in UNESCO are different from intangible cultural assets in Korea in terms of the range and perspective. Intangible cultural assets in UNESCO include tangible assets as well as tangible tools or objects. However, intangible cultural assets in Korea do not acknowledge the intangible cultural products. In addition, UNESCO provides identity and connectivity of intangible cultural assets to individuals and groups emphasizing the 'creative' aspects' that culture is to be reproduced. However, Korea focuses on succession of national culture. Intangible cultural assets in UNESCO and Korea are a bit different, but this study did not classify them but applied them in the study as commons (Kim, 2017:21) .

protection, and this represents the features of commons defined by Hess (1995).⁸

Since intangible cultural assets are in the intangible form, total amount is not reduced after consuming them. Nonetheless, the government is preparing for various support policies through legal institutions to conserve intangible cultural assets. Especially, environment for conservation of successors becomes weakened as intangible effort that has created tangible culture is relatively less conserved. This causes uncertainty in succession of intangible cultural assets and makes it necessary to manage and protect them for sustainable maintenance. Lim(2011:21) has suggested that the concept of commons be the resource to be possessed by the local community and used and managed commonly by its members. According to him, tangible and intangible cultural assets do have both "private property right" and "public goods" characteristics at the same time. Therefore, it is required to proceed the policies for cultural assets as a concept of commons with the values to be shared by public organizations and individuals.

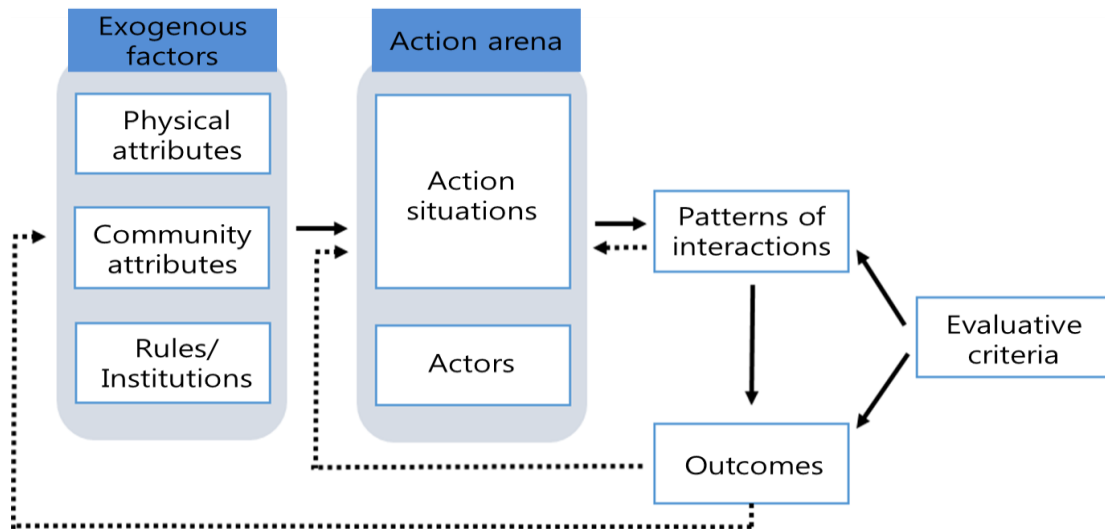
2. Institutional Analysis and Development(IAD) Framework for visualizing the Rational Choice New Institutionalism

In order to more specifically identify influential factors of conservation for intangible cultural assets, this study is intended to utilize IAD (institutional analysis and development) framework for visualizing the Rational Choice New Institutionalism (Ostrom, 2005:15; Kiser and Ostrom, 1982; Jung et al., 1999:23). IAD is providing a very useful theoretical framework for visualizing the the Rational Choice New Institutionalism approach which analyzes the relationship between rules or institutions, actors behaviors and their incentives in various action arena.

IAD framework developed by Kiser & Ostrom (1982), Ostrom (2005:15), and others has been applied and used in various research fields including diverse commons as a core theoretical framework for over 30 years by many scholars. IAD might be differently applied depending on research topics, but three exogenous factors and action arena are commonly suggested (see the left side of Figure 2.1). The basic structure of the IAD framework can be represented as shown in Figure 2.1.

8 Hess (1995) has suggested that management and protection be required on commons unlike public goods, and this is defined as an important attribute of commons.

Figure 2.1 IAD framework



Sources: Adopted from Kiser & Ostrom (1982), Ostrom(2005:15), and Jung et al. (1999:23)

As the most simplified version of IAD, physical attributes (biophysical/material conditions), community attributes, and working rules/institutions as three exogenous factors (independent variables) influence on the incentive structure of participants in the real decision making situations of action arena. The components of IAD suggested by Ostrom (2005:15) are three exogenous variables, action arena, patterns of interactions, outcomes, and evaluative criteria. The IAD framework views action arena(social phenomena) and the outcomes (system performance etc.) as dependent variables. produced from interactions of participants in the action arena⁹ are judged by the several evaluation criteria (Ostrom, 2005:15; Kiser and Ostrom, 1982; Jung et al., 1999:23).

Physical attributes (biophysical/material conditions) mean the characteristics of goods and services as well as environmental and physical conditions pursued by the participants (actors) in the action arena through interaction and produce the results by their influencing on strategies and actions of actors (doers). Therefore, they indicate the conditions of goods and services as a subject of interaction among individuals. Community attributes include the behavioral values allowed in the community, understanding level, range of equality in preference, scale and configuration of community, and unequal range. Especially, it is feasible to explain how culture is applied to shared values (Ostrom, 2005:15; Lee, 2012:8; Shin, 2014:11). Rules or institutions are the behavioral mode that is determined in the positions of members and shared by members in the community. If violating them, there might

⁹ Action arenas consist of two holons: an action situation and the participant in that situation(Ostrom, 2005:14)

be penalty (Crawford & Ostrom, 1995). They mean working rules or rules-in-use and include formal as well as informal rules as a policy operated in the action arena.

Applying the IAD framework to the cultural commons, culture has various influential factors due to the development of digital technology and their interactions are very complex. Intangible cultural assets have their international values enhanced as the commons instead of public goods including UNESCO as well as Korea. Therefore, there have been many of the researches on the conservation and management of them. Researches on intangible cultural assets in the use of IAD are judged to derive the direction of efficient conservation and management by identifying interactions of actors along with external influential factors. In the next section, IAD components are connected with factors of sustainability of conservation for intangible cultural assets. First of all, 'outcome' factors are the 'sustainability of conservation for intangible cultural assets,' and 'rules and institutions' are connected with 'governance rules and institutions of intangible cultural assets', 'biophysical/material conditions' are connected with 'physical attributes of intangible cultural assets,' and 'attributes of community' can be tied with 'community characteristics of intangible cultural assets'.

3. Influential Factors of Sustainability of Conservation for Intangible Cultural Assets

1) Governance rules and institutions of intangible cultural assets

Rules are the promises that officially and clearly regulate what members in certain positions shall or shall not do or what they can or cannot do in the community under particular circumstances. Members establish common rules to solve issues from the use of commons and are able to penalize if violating rules (Crawford & Ostrom, 1995). In this study, the rules that have been made by each of the members are reviewed to manage intangible cultural assets and identify how their design principles and policy influence on the motivation of members' behaviors.

The rules or institutions of intangible cultural assets' governance measure the recognition of legal and institutional policies that influence on the members in the community of intangible cultural assets. The rules actually applied in the action arena are classified into formal rules and working rules or rules-in-use. Related Korean laws such as 'Cultural Properties Protection Act' and 'Laws of conservation and Promotion of Intangible Cultural Assets', local autonomous laws, and ordinance are official literal documents. In the regulations as an official rule, responsibilities, positions, and authorities of actors are clearly specified. The range of the qualifications, disqualifications, and

succession of possessors and successors is suggested. Also various criteria are suggested in decision making process from the course of operation for the policies of intangible cultural assets including the establishment of basic plans in Cultural Heritage Administration. With the enactment of laws, members are provided with various types of information such as financial information of policy operation of intangible cultural assets, support business, and compensation system. There is a need to identify recognition of participants as to whether such enactment of laws is appropriately regulated according to circumstances in the field of members, whether related information is well-provided, whether support business is performed or not according to the laws.

Furthermore, the regulations and rules for the conservation of each type of intangible cultural assets are referred to as rules-in-use (working rules) or unofficial (informal) rules that are comprised of moral and ethical norms and customs. The seven rules of position, boundary, choice, aggregation, payoff, and scope influence on the decision-making process.¹⁰ Unofficial (informal) rules can be voluntarily changed by participants as well as conflict might be equivalent with official (formal) rules. With unofficial (informal) rules, participants find the causes of conflict and influence on decision making process through the interaction.

2) Physical attributes of intangible cultural assets

Physical attributes of certain resources focus on what their attributes are and how to obtain them. Therefore, one specific community is formed on resources serving as a pivotal role in creating decision, rule, and policy of them (Hess and Ostrom, 2003). Depending on physical features and attributes of commons, it is possible to identify the available technical level and to determine the utility value of them. Ostrom (2005:15) has insisted that the scale, location, boundary, and capacity of resources are included in physical attributes and technology tends to determine how much of relevant resources can be obtained.

However, intangible cultural assets have different characteristics from the 'commons.' Culture does not have its total amount reduced when consuming it. Therefore, unlike general commons, culture has

10 Ostrom (2005: 186-210) has suggested position, boundary, choice, aggregation, information, payoff, and scope rules as working rules. Position rules are about to create positions in the framework of operational level of actors and boundary rules are to setup the boundary as to whether actorss are qualified. Choice rules are to regulate what to do and not to do prior to making decision. Aggregation rules are to determine whether a decision of an actor or of multiple actors is needed prior to an action at a node in a decision process(Ostrome, 2005: 202). Information rules are about information needed in action situation, and payoff rules are about compensation from benefits and costs. Finally, scope rules regulate what to do and not to do for the results(Ostrom, 2005; Kim and Lee, 2010; Lee, 2012; An, 2013).

non-competitive / non-consumervable feature on consumption and intangible cultural assets can enjoy traditional culture including the music, dance, play, and martial art without restrictions. In spite of them, intangible cultural assets include social dilemma. The first dilemma is a typical issue of free rider for taking benefits from intangible cultural assets without contributing to maintain the individual or public benefits. The second one is related to uncertainty about the succession to next generations.

This might hinder the development of culture as a new source for regeneration. Also the depletion of idea on the cultivation of cultural community might degrade the prospect on the development of culture in the future as well as the stagnation of culture. As for intangible cultural assets, it is a rare case in which those educated by successors serve as an educated successor of intangible cultural assets as a full-time worker. Most of them work as an instructor for social education or cultural art education or have different main jobs. They have main duties over successors. They tend to work less for succeeding intangible cultural assets and end up failing to contribute to maintenance and management of intangible cultural assets. Zhang (2012) and Serageldin (1999) have suggested that intangible cultural assets have long been recognized to pursue public interest and be included as commons in need of management and protection to prevent social dilemma. In addition, they have insisted that it is important to analyze social dilemma and re-define the characteristics of resources as commons to suggest new conceptual framework.

3) Community attributes of intangible cultural assets

Bertacchini et al. (2012) have suggested that a community be selected as a base unit to regard culture as a common. They have insisted that it is possible to understand how culture is produced and managed as commons through the interaction of members and structure of community. Unlike community attributes based on natural resources, it is much difficult and wide range to identify the entire communities that participate in the production, usage, and management of intangible cultural assets.¹¹ Diverse actors for the conservation of intangible cultural assets constitute the community by sharing the norms, cultures, and common values (Hess and Ostrom, 2003). Actors derive required goods and services from intangible cultural assets in which traditional practice and custom are reflected while constituting the relationship including various interpersonal network. Especially,

¹¹ Hess and Ostrom (2003) indicate that it is much difficult to identify the entire community participating in the production, usage, and management of recent commons including knowledge unlike sharing natural resources including the use of underground water or fishery.

intangible cultural assets are based on the identity of the nation in which community is formed based on nationality or local areas.

Bocchino & Murphree (2010:23) have suggested that cultural range be formed according to the identity, history, and politics of the nation. As for intangible cultural assets based on the identity of the nation, they form a relationship to create a market to acquire goods and services required for them to survive. Also, a community is based on the local areas or national boundary. In addition, such communities tend to have stronger influential power of leadership and political characteristics represented by leaders.

The members of the community tend to have various characteristics depending on diverse perspectives such as local areas, culture, education, and religion. However, they form a group according to homogenous value and have strong complementary ties. Members share information in their cultural diversity and supervise the activities for sharing (using) intangible cultural assets as the commons. A community is represented as an autonomous committee or group in the local area. In the national level, the cultural asset committee in Korea Cultural Heritage Administration is a representative case. Also, in the international level, the inter-governmental committee for the protection of intangible cultural heritage in UNESCO plays such a role.

4) Action arena of intangible cultural assets

Action arena is a specific situation in which rules and physical & community-related attributes collectively influence on each other. Depending on what decision and action are taken in the action arena, it is feasible to measure various reactions and results of actors. In the behavioral situations, actors tend to work together, stand against with each other, or interact with others as a part of various activities. Action arena in intangible cultural assets places high priority on autonomous operation and management of actors. Autonomous access shall be made in mutual trust among members and they proceed decision making process related to intangible cultural assets through the voluntary participation based on their trust. However, in reality, the behaviors on the autonomous access are influenced by the multi-level analysis rules (operational, collective, and constitutional)¹².

12 The multi-level analysis emphasizes the reiteration of rules and institutions, and can be explained in three aspects of operational level, collective choice level, and constitutional choice level. Operational level means the level of social phenomena due to interactions and collective choice level is a higher level(policy making) than operational level. Constitutional choice level sets up the rules that finally influence on the entire process(operational and collective levels) enacting the rules of authority, operation, and interaction of actors (Ostrom, 2005; Jung et al., 1999).

What is especially important in the analysis of action arena is to identify what incentives make participants with various preferences participate in actual behaviors. Actors or doers tend to predict physical compensation, position, or authority that they will be compensated with by participating in certain behavioral situations before taking an action. They tend to behave according to position or authority granted on them along with acquiring information and pursuing their interest through the connection and participation (spatial multi-level analysis) among operational organizations in various levels .

5) Sustainability on the conservation of intangible cultural assets

Since physical conditions of resources continue to change, It is almost to maintain the original status of the commons. Therefore, an effort should be made to maintain well them through continuous supervision and re-evaluation. There is a need to maintain the origins of intangible cultural assets for succeeding and developing traditional culture as well as for realizing and improving the values, which might solidify the origins as an intangible value. Therefore, policies of intangible cultural assets in Korea should pursue to highly evaluate the future value of intangible assets and make everyone sympathize with them.

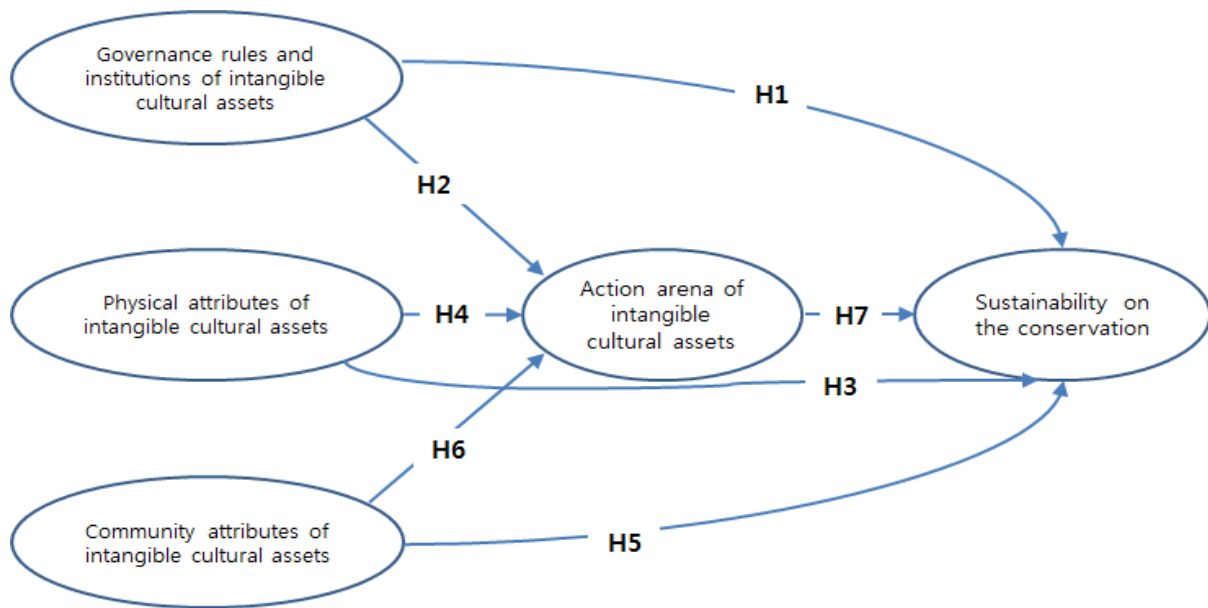
Sustainability means to fulfill the demands of many interested parties that participate in the production, usage, and management of commons without threatening to meet a need of future generations (Hess and Ostrom, 2003). It is very difficult to maintain the original status of intangible cultural assets due to the continuous change of physical conditions. In order to conserve the sustainability of intangible cultural assets, it is required to establish and execute intangible cultural assets policies by policy makers based on the rules-in-use and incentives of community members or potential participants. Policy makers should effectively proceed the support business with responsibility through the regular evaluation and continuous supervision. In addition, many of the interested parties of intangible cultural assets should participate in such policy processes with public and ethical sense of responsibility. In particular, it is required to see how physical and social capital increases or decreases in what interaction among interested parties to evaluate the sustainability of the commons system. With this, it is feasible to measure and evaluate the fairness of finance, appropriateness of compensation system, and the morality of participants. An effort should be made for successors who have contributed to conserving intangible cultural assets to receive corresponding service and benefit by effectively operating various support businesses.

III. Analytic Research Framework

1. Research Model and Hypothesis Specification

This study has established the following research model based on the theoretical reflections from previous studies that had been conducted on influential factors of intangible cultural assets under the aforementioned IAD framework. Rules and institutions (policies) for governance, physical attributes, and community attributes of intangible cultural assets are specified as independent variables, action arena of intangible cultural assets as an intermediate variable, the sustainability on the conservation of intangible cultural assets as a dependent variable. The objective of the model is to analyze how rules and institutions (policies) for governance, physical attributes, and community attributes of intangible cultural assets influence on the sustainability on the conservation of intangible cultural assets in a configurational way through the action arena of intangible cultural assets. The research model can be represented as shown in Figure 3.1.

Figure 3.1 Research Model



From the research model based on the theoretical reflections and previous studies (Figure 3.1), seven hypotheses can be specified by employing three independent variables and one intermediate variable that have influenced on the sustainability on the conservation of intangible cultural assets as a dependent variable.

Hypothesis 1(H1). Rules and institutions (policies) for governance of intangible cultural assets will influence on the sustainability on the conservation of intangible cultural assets.

Hypothesis 2(H2). Rules and institutions (policies) for governance of intangible cultural assets will influence on the factors of action arena of intangible cultural assets.

Hypothesis 3(H3). Physical attributes of intangible cultural assets will influence on the sustainability on the conservation of intangible cultural assets.

Hypothesis 4(H4). Physical attributes of intangible cultural assets will influence on the action arena of intangible cultural assets.

Hypothesis 5(H5). Community attributes of intangible cultural assets will influence on the sustainability on the conservation of intangible cultural assets.

Hypothesis 6(H6). Community attributes of intangible cultural assets will influence on the action arena of intangible cultural assets.

Hypothesis 7(H7). Action arena(action situations and participants) will influence on the sustainability on the conservation of intangible cultural assets in a configurational way.

2. Research Design for Survey and Analysis Variables

We have conducted the questionnaire survey to test aforementioned seven hypotheses. The survey tool has constituted the questionnaires based on the literature review on the variables of the IAD framework. The questionnaires were measured by using Likert 5-score criteria. The survey sample targets are successors of intangible cultural assets, policy makers (public servants), and enjoying parties (citizens). The survey has been made from April 7th to 24th, 2017. In detail, our survey's targets were intangible successors cultural asset successors by visiting technical and artistic groups that have currently employed in National Intangible Cultural Asset Succeeding Education Institute, policy makers who are national and local public servants with an experience of being charge of tasks related to intangible cultural assets and also who watched the performance.

283 respondents of total 304 questionnaires distributed were used for the statistical analysis. The survey questionnaires have included queries about rules and institutions (policies) for governance, physical attributes, community attributes, action arena, and sustainability on the conservation of intangible cultural assets. To be specific, the questionnaires were made with nine questions about rules and institutions (policies) for governance of intangible cultural assets, nine questions about

physical attributes of intangible cultural assets, seven questions of community attributes of intangible cultural assets, eleven questions of action arena of intangible cultural assets, and seven questions of sustainability on the conservation of intangible cultural assets.

Questions about rules and institutions (policies) for governance of intangible cultural assets measure the acknowledgement of legal and institutional rules that influence on various intangible cultural asset community members. Community members tend to be provided with a variety of information including the financial information, supportive business contents, and compensation system on the operation of policies for intangible cultural assets. However, we need to measure the acknowledgement of participants as to whether the enactment of such formal laws is appropriately implemented under local circumstances of intangible cultural asset community members, whether related information is properly provided, and whether supportive business is proceeded according to the laws. Physical attributes of intangible cultural assets focus on how to obtain resources. They measure whether various technical aspects are efficiently established to obtain resources. Community attributes of intangible cultural assets measure the structure of related communities related to intangible cultural assets and interaction of members. Action arena is a specific circumstance that is comprehensively or configurationally influenced by rules and physical and community attributes. Therefore, it measures which decisions and behaviors make members interact with each other in certain action situations. Questions about sustainability on the conservation of intangible cultural assets measure which public and ethical sense of responsibility various interested parties (stakeholders) including policy makers, successors, and enjoying parties are in need of for sustainable conservation of intangible cultural assets.

Social science statistical package, SPSS 19.0, was used for comparative analysis of demographical characteristics and average in each group. In order to analyze the causal relationships among related variables of seven hypotheses, AMOS(Analysis of Moment Structures) 18.0 was used to proceed the analysis of structural equation model. Structural equation model is referred to as covariance structural model or covariate structural model and is an analytical method improved in the combination of measuring theory developed in the field of sociology and psychology and simultaneous equation model developed in the area of econometrics (Cho, 2014). In this study, the AMOS program was employed for conducting both confirmative factor analysis and structural equation model analysis.

IV. Analysis Results and Discussion: Testing the Hypotheses

1. Descriptive Statistics

Of total 283 respondents, 167 were enjoying parties (citizens or groups experiencing and watching the technical and artistic intangible cultural assets) (59.0%), 65 were public servants (with an experience of work related to intangible cultural assets or culture) (23.0%), and 51 were successors (individuals or groups relevant to possessors, graduates, and education assistants for succession) (18.0%).

As for the work experience in the department of intangible cultural assets, there were 22 respondents with one year of experience (7.8%) followed by 22 with two years of experience (7.8%), 23 with 3 to 5 years of experience (8.1%), 6 with 5 to 10 years of experience (2.1%), 18 with 10 to 20 years of experience (6.4%), and 26 with more than 20 years of experience (9.2%). There were 166 respondents with no experience (58.7%). As to whether to attend or graduate Korea National University of Cultural Heritage on respondents with an experience of work related to intangible cultural assets, 17 of them (6.0%) have responded to either currently attend or graduate.

As for gender, 149 respondents were men (52.7%) and 134 were women (47.3%). With respect to age, 48 people were in their 20s (17.0%), 100 people in their 30s (35.3%), 82 people in their 40s (29.0%), 34 people in their 50s (12.0%), and 19 people in their 60s (6.7%). Regarding demographical characteristics from academic background, one person was with middle school graduate or below (0.4%) followed by 49 high school graduates (16.3%), 195 college graduates (68.9%), and 41 people with graduate school degree or higher (14.5%).

2. Validity and Reliability Analyses of Variables

This study has analyzed the influence of independent variables of 'rules and institutions (policies) for governance of intangible cultural assets,' 'physical attributes of intangible cultural assets,' and 'community attributes of intangible cultural assets' on the dependent variable, 'sustainability on the conservation of intangible cultural assets' via the 'action arena of intangible cultural assets.' As a preliminary step to analyze the influential relationship independent variables and dependent variable, a correlation analysis has been conducted in the use of Pearson correlation coefficient that had been widely utilized with two-tailed analysis. The results show that the correlation coefficient among

variables turned out to be less than 0.8 with a low issue on multicollinearity among factors.

Prior to the analysis of structural equation model, confirmatory factor analysis was conducted in this study. The confirmatory factor analysis(CFA) is implemented to verify the validity. When a CFA is conducted, the researcher employs a hypothesized model to estimate a population covariance matrix that is compared with the observed covariance matrix. It measures the factor load (standardized regression coefficient) between measuring variables and potential variables and also to evaluate overall goodness of fit of the model. The CFA is useful in measuring construct validity. The construct validity is about the consistency between constructive concept (potential variable) and measuring variable. It indicates how well the constructive variable (potential variable) is measured (explained) by the measuring variable. Therefore, deleting questions for the acceptance of goodness of fit in the CFA is to focus on securing the goodness of fit.¹³

The results derived from the CFA with total 43 questions show that 23 observatory variables with low factor load were removed, being followed by modified model. They were four questions about 'rules and institutions (policies) for governance of intangible cultural assets,' four questions about 'physical attributes of intangible cultural assets,' three questions about 'community attributes of intangible cultural assets,' four questions of 'action arena of intangible cultural assets', and five questions about 'sustainability on the conservation of intangible cultural assets.' According to the results of final model analysis, goodness of fit of model has ended up overall increasing, and a total of factor load values were higher than 0.6.

Table 4.1 Confirmatory Factor Analysis: Model Fit Summary

Model	Number of questions	χ^2/DF	p	RMR	GFI	AGFI	CFI	NFI	RMSEA
Basic model	43	2.460	0.000	0.048	0.710	0.678	0.792	0.696	0.072
Modifications model	20	1.917	0.000	0.031	0.900	0.868	0.948	0.899	0.057

After conducting the CFA, composite reliability (CR) and average variance extracted (AVE) were measured to verify whether to secure the convergent validity and discriminant validity. Convergent

13 Researchers consider whether to secure validity even if information is damaged in the measuring analysis as well as confirmatory factor analysis and whether not to lose information in spite of insufficient validity. It might be different depending on circumstances of the research, but researchers generally focus more on securing validity (Bae, 2011:25-26).

validity indicates that the correlation between values measured with different methods shall be high. Composite reliability is the evaluation index of convergent validity. Discriminant validity is about how there shall be a distinct difference on measures among different values, being referred to as AVE value. Composite reliability value and AVE value shall be higher than 0.7 and 0.5, respectively, for reliable judgment.

Table 4.2 Composite Reliability (CR) and Average Variance Extracted (AVE)

Unobserved (latent) Variables	CR	AVE
Governance rules and institutions of intangible cultural assets	0.869	0.625
Physical attributes of intangible cultural assets	0.810	0.617
Community attributes of intangible cultural assets	0.794	0.563
Action arena of intangible cultural assets	0.859	0.604
Sustainability on the conservation	0.878	0.591

According to the results of verification on convergent validity, all the variables including of rules and institutions (policies) of governance, physical attributes, community attributes, action arena, and sustainability on the conservation of intangible cultural assets turned out to be 0.7 that was the reference value of composite reliability. AVE value for the verification of discriminant validity was higher than 0.5 as a reference value in all the variables. Therefore, validity was recorded to be high. Reliability and goodness of fit of composite measurement will be verified in comprehensive consideration of theoretical background, Cronbach's Alpha, factor load, multiple correlation values, and composite reliability (Hatche and Stephanski, 1994). With them, it is reasonable to indicate that the analysis results of this study are consistent with overall criteria of acceptance.

Table 4.3 Confirmatory Factor Analysis Results

Observed Variables	Regression Weight	Standardized Regression Weight	S.E.	C.R.(t)	p
A→A2	1.000	0.728			
A→A3	0.894	0.694	0.082	10.881	***
A→A4	1.037	0.745	0.089	11.654	***
A→A5	1.082	0.792	0.088	12.328	***
B→B9	1.000	0.804			
B→B8	0.891	0.717	0.070	12.798	***
B→B7	1.010	0.797	0.069	14.625	***
B→B5	0.888	0.667	0.076	11.707	***
C→C7	1.000	0.724			
C→C4	0.960	0.690	0.087	11.035	***
C→C3	0.841	0.664	0.079	10.628	***
D→D10	1.000	0.742			
D→D9	0.975	0.771	0.080	12.136	***
D→D6	0.843	0.660	0.081	10.418	***
D→D2	0.820	0.691	0.075	10.908	***
F→F7	1.000	0.703			
F→F2	0.998	0.732	0.089	11.262	***
F→F3	1.003	0.749	0.087	11.500	***
F→F4	1.011	0.726	0.090	11.178	***
F→F6	0.973	0.749	0.085	11.502	***

Notes: A= Governance rules and institutions of intangible cultural assets(A2: Authority, A3: Aggregation, A4: Information, A5: Payoff), B= Physical attributes of intangible cultural assets(B5: Documentation, B7: Education, B8: Events, B9: Maintenance), C= Community attributes of intangible cultural assets(C3: Participation, C4: Diversity of Scale, C7: Advisory committees), D= Action arena of intangible cultural assets(D2 : Multi-level analysis rules, D6: Position, D9: Governing, D10: Accessibility) , F= Sustainability on the conservation(F2: Effectiveness, F3: Responsibility, F4: Fairness, F6: Sympathy, F7: Potential)

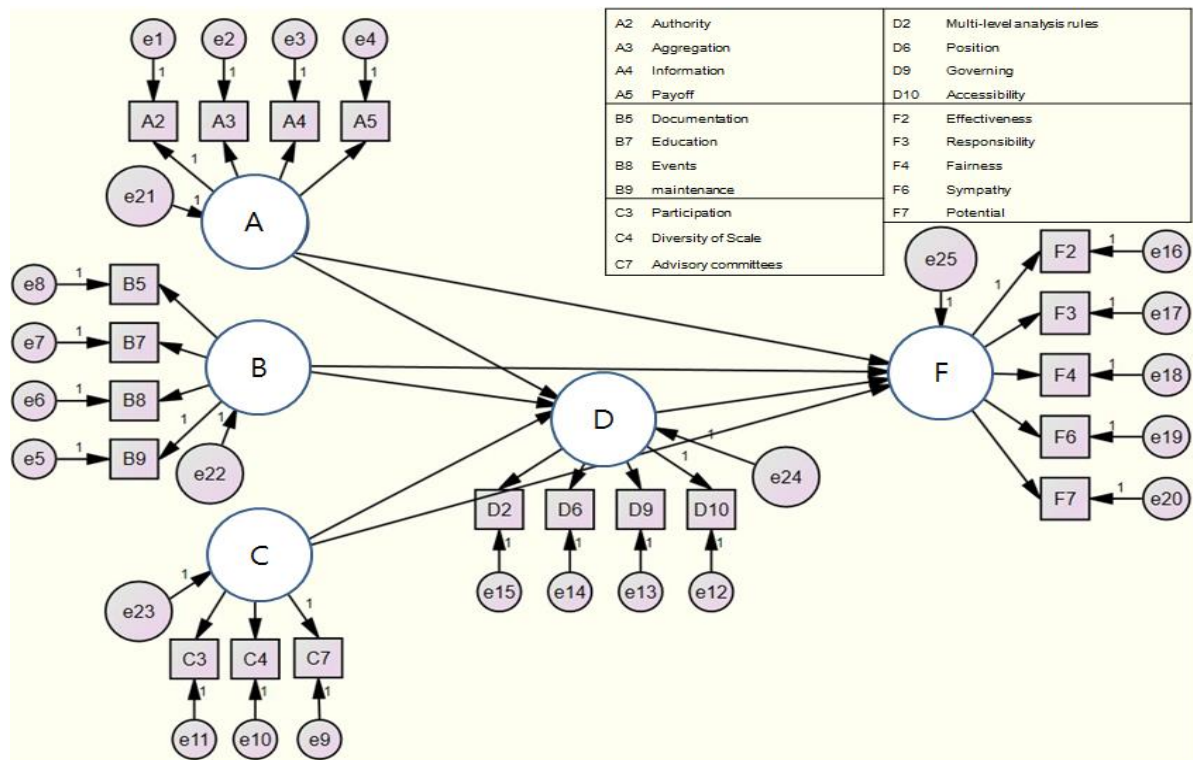
3. Analysis of Structural Equation Model

Structural equation model (SEM) is an analytical method for supplementing the limit of regression analysis from SPSS that does not consider the measurement error. SEM has been described as a combination of exploratory factor analysis and multiple regression. The analysis of SEM is able to estimate the part where endogenous variables cannot be explained by exogenous variables through the error. The analysis by SPSS package in the research model setup by a researcher makes it feasible to

analyze only the relationships between independent and dependent variables. However, the SEM analysis makes it feasible to derive results of analysis while deriving the relationships among independent and dependent variables and intermediate variable (parameter) at the same time. In this study, hypothesis test and path analysis were conducted through the SEM to seek for goodness of fit of model.

Basic hypothesized causal model for the influence of three independent variables ('rules and institutions (policies) for governance of intangible cultural assets,' 'physical attributes of intangible cultural assets,' and 'community attributes of intangible cultural assets') on the dependent variable ('sustainability on the conservation of intangible cultural assets') via the intermediate variable ('action arena of intangible cultural assets') can be graphically represented as shown in Figure 4.1.

Figure 4.1 Basic Hypothesized Causal Model



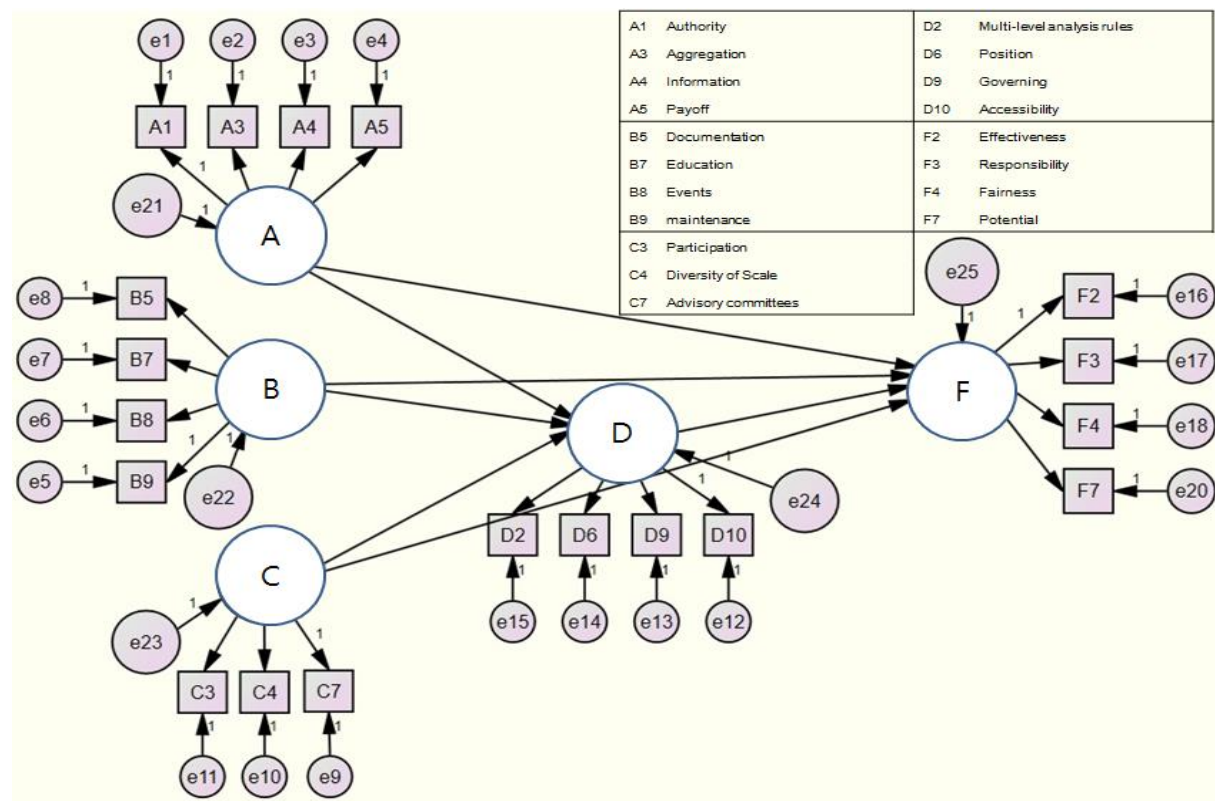
Notes: Same as Table 4.3.

To test the hypotheses, the method of maximum likelihood. In general, an evaluation of goodness of fit by the SEM is a procedure for confirming how proper the covariance structural model is. The goodness of fit evaluation of this research model has been conducted in the use of absolute for measures (AFM) for assessing the overall goodness of fit of the model, incremental fit measures (IFM) for evaluating the consistency of suggested model on the basic hypothesized model, and parsimonious

fit measures (PFM) for comparing the complexity of the model and the difference in objectivity (Bae, 2011). AFM is judged with the indexes such as X^2/df , p-value, GFI, AGFI, RMR, and RMSEA. Also IFM is judged in the cutoff criteria of NFI and CFI. Lastly, PFM is judged in the cutoff criteria of PGFI and AIC. Regarding the goodness of fit of basic hypothesized causal model, X^2/df , p-value, and PGFI turned out to be appropriate in acceptable cutoff criteria. However, GFI, AGFI, RMR, RMSEA, CFI, and NFI turned out not to be appropriate for acceptable cutoff criteria.

To increase the goodness of fit of the model, this study has deleted questions based on the squared multiple correlation(SMC) values and standardized residuals to secure validity. Modifications model is graphically represented as shown in Figure 4.2.

Figure 4.2 Modifications Model



Notes: Same as Table 4.3.

Regarding the goodness of fit modifications model, all the indices except AGFI turned out to be appropriate in acceptable cutoff criteria. GFI value was not appropriate in acceptance criteria. However, Bentler (1990) interpreted that, even if GFI or AGFI values are less than 0.9, when CFI value is higher than 0.9, they are acceptable in the degree of goodness of fit. Therefore, this study is intended to suggest the modifications model as an optimal model. According to the results of

hypotheses testing suggested in the modifications model, all the hypotheses turned out to be adopted in the significance level of less than 0.05. Both verification on goodness of fit and support of hypotheses can be reconfirmed to suggest modifications model as a final (optimal) model.

Table 4.4 Goodness of Fit of Modifications Model

Fit Indices	Acceptance Criteria	Modifications Model
χ^2/df	$\chi^2/df < 3$	1.800
p-value	$p > 0.05$	0.000
GFI	> 0.9	0.924
AGFI	> 0.9	0.886
RMR	$p < 0.08$	0.072
RMSEA	$p < 0.08$	0.053
NFI	> 0.9	0.918
CFI	> 0.9	0.961
PGFI	Between 0 and 1	0.913

Table 4.5 Estimates of Modifications Model

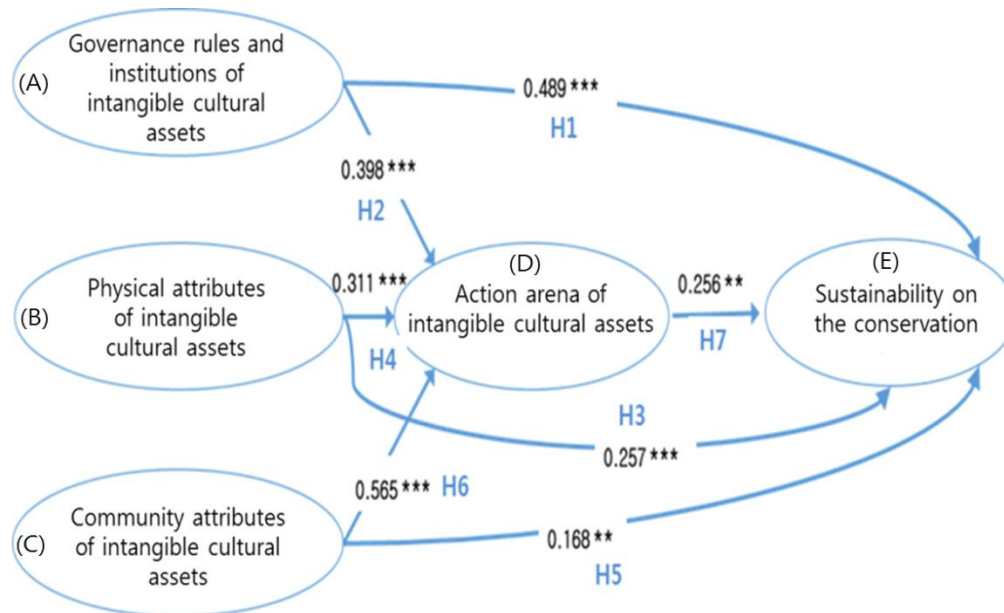
Hypothesis route	Hypothesis direction	Standardized Regression Weight	S.E.	C.R.(t)	p
A → D	+	0.398	0.078	5.641	0.000***
B → D	+	0.311	0.062	4.783	0.000***
C → D	+	0.565	0.097	6.877	0.000***
A → F	+	0.489	0.104	5.170	0.000***
B → F	+	0.257	0.058	4.176	0.000***
C → F	+	0.168	0.100	1.973	0.049**
D → F	+	0.256	0.103	2.475	0.013**

Notes: A= Governance rules and institutions of intangible cultural assets, B= Physical attributes of intangible cultural assets, C= Community attributes of intangible cultural assets, D= Action arena of intangible cultural assets , F= Sustainability on the conservation.

The results of analyzing the influential structure of final model represent that rules and institutions (policies) of governance, physical attributes, and community attributes of intangible assets have affected in a configurational way the sustainability on the conservation of intangible cultural assets via the intermediate variable. In addition, all three independent variables respectively have directly

influenced the sustainability on the conservation of intangible cultural assets. The schematic image of final research model derived from the modifications causal model is represented as shown in Figure 4.3.

Figure 4.3 Final Research Model



In summary, first of all, community attributes of intangible cultural asset have most influenced the action arena of intangible cultural assets. Secondly, the rules and institutions (policies) for governance of intangible cultural assets have highly affected the sustainability on in the conservation of intangible cultural assets as well as the action arena of intangible cultural assets. Finally, the rules and institutions (policies) for governance of intangible cultural assets, physical attributes of intangible cultural assets, and community attributes of intangible cultural assets have configurationally influenced directly or indirectly the sustainability on the conservation of intangible cultural assets by way of the action arena of intangible cultural assets.

V. Conclusion

Intangible cultural asset is a behavior and subject by humans in intangible form. Therefore, it is very difficult to institutionally designate and maintain them. However, we need to preserve the spiritual meaning and function of intangible cultural assets as they contain the life mode of Korean people. This is why it is our duties as people living in modern era to sustain intangible cultural assets for the next generations. The objective of this study is to suggest the desirable institutional design for maintaining the resource management system of sustainable intangible cultural assets by exploring institutional and structural influential factors for the sustainability on the conservation of intangible cultural assets in Korea.

Our research model derived from theoretical reflections and previous studies has consisted of three independent variables (rules and institutions of governance, physical attributes, and community attributes of intangible cultural assets), one intermediate variable (action arena of intangible cultural assets), and one dependent variable (sustainability on the conservation of intangible cultural assets). Seven hypotheses were specified from the research model and path analysis was conducted to test them through the use of structural equation.

The results of the hypotheses testing by the AMOS statistical package have shown that rules and institutions(policies) of governance, physical attributes, and community attributes of intangible cultural assets have turned out to influence on the sustainability on the conservation of intangible cultural assets via the action arena of intangible cultural assets. In addition, all three independent variables have affected directly or indirectly the sustainability on the conservation of intangible cultural assets as a dependent variable.

The major theoretical and policy implications based on the adopted seven hypotheses are as follows. First of all, rules and institutions (policies) of governance, physical attributes, and community attributes of intangible cultural assets have directly or indirectly affected the sustainability on the conservation of intangible cultural assets in a combinatorial and configurational way in the interaction of actors participating in the actions of intangible cultural assets in certain action situations of action arena. Secondly, the community attributes of intangible cultural assets have directly or indirectly influenced on the sustainability of intangible cultural assets as a dependent variable. Indirect effect (H5) has turned out to be higher than direct one (H6). It has been also confirmed that the characteristics and norms of members in the community related to intangible cultural assets (community attributes of intangible cultural assets) have significantly influenced on the circumstances of interaction (action arena of intangible cultural assets) among actors of intangible cultural assets

(H6). Furthermore, it has shown that community members have behaved according to their positions and authorities and have placed their high priorities on the circumstances (action arena) for sharing information in connection with various organizations or institutions.

Thirdly, official laws, policies, and local rules for managing and operating intangible cultural assets have turned out to be directly influential (H1) more than to be indirectly influential (H2). In particular, among three factors, the community attributes have most affected the sustainability on the conservation of intangible cultural asset as a dependent variable. Therefore, it has been confirmed that laws, policies, and rules of intangible cultural assets might be recognized as an important influential factor for sustainable conservation of intangible cultural assets (H1). There has been a high concern on recognition and designation of intangible cultural assets, decision making authority of enjoying parties (possessors and graduates, etc.), and compensation regulations on behavioral results of intangible cultural assets. In addition, it has also been recognized how rules and institutions (policies) for governance of intangible cultural assets should be importantly considered for sustainable conservation of intangible cultural assets.

Fourthly, legal and institutional factors, rules and institutions, of intangible cultural assets have most affected directly the sustainable conservation of intangible cultural assets. In spite of the recognition of how rules and institutions related to intangible cultural assets have strongly influenced the sustainable conservation of intangible cultural assets, current laws and policies related to intangible cultural assets have many conflicts including the designation and discharge of national intangible cultural assets, recognition of possessors, and operation of Cultural Properties Committee. Such results represent that current laws and rules related to intangible cultural assets are less effective in requiring the re-design.

Fifthly, reflecting on the interview with a possessor of national intangible cultural assets, the interviewee has mentioned, "Current policies of intangible cultural assets are highly involved with administration such as the Cultural Heritage Administration and possessors or human cultural assets tend to have a very low or weak authority in the process of policy or decision making process." He added, "Policies and businesses related to intangible cultural assets that have been previously managed by the Cultural Heritage Administration are now being controlled in unnecessary duplication by the Ministry of Culture and Tourism, Korea Cultural Heritage Foundation, Korea Intangible Heritage Promotion Center, and National Intangible Heritage Center, which have resulted in confusion." Due to the importance of policies in intangible cultural assets, there have increased many organizations and institutions to proceed and manage various businesses. However, they are not well

practically operated and managed as expected. We need to clarify functions or missions and rights of each organization and institution and to fully reflect the voices and decisions of possessors and graduates of intangible cultural assets in the course of policy making process.

Finally, reflecting on the important roles of laws, policies, and local rules of directly having most influenced the sustainable conservation of intangible cultural assets, we need to re-design rules and institutions in the collective and constitutional choices levels as a dimension of multi-level analysis. As [Cultural Properties Protection Law] and [Act on the Safeguarding and Promotion of Intangible Cultural Heritage] were enacted, they were contributing to sustainable conservation of intangible cultural assets. However, there has been lack of communication and cooperation between successors and policy makers as well as of specific supportive procedures and contents for the promotion of intangible cultural assets. It is required to legally prepare for the opportunity of discussion such as seminar, discussion, and business brief session while reinforcing the boundary rules for promotion of intangible cultural assets and information rules. In addition, basic principles should be regulated to preserve intangible cultural assets in the Korean constitution and highly evaluate and sympathize the future value of intangible cultural assets.

Our study has following limitations beyond the aforementioned analysis results. The scope of analysis in this study has been limited only on the national intangible cultural assets. Due to the low number of sample survey respondents, it is somewhat hard to generalize the results of the study in the entire scope of intangible cultural assets in Korea. It is necessary to expand the sample areas on intangible cultural assets in cities and provinces in Korea for the generalization of future research. Furthermore, the analysis has been conducted with influential factors on the sustainability on the conservation of intangible cultural assets specifically under the IAD framework limited to rules and institutions (policies) of governance, physical attributes, community attributes, and action arena of intangible cultural assets. Therefore, there is a limit for not being able to control the influence of other factors. As a research model derived in the IAD framework, we need to proceed a continuing research in consideration of characteristics of various variables in the future.

Also, in the survey process, there were many jargons and academic knowledge in the survey that respondents such as possessors and graduates of intangible cultural assets could not understand. Therefore, there is a limit to secure the objectivity of the survey. It seems that there is a need to proceed the research with some specific strategies for supplementing such limits, seeking for influential factors of sustainability on the conservation of intangible cultural assets in the future, and developing related policies.

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