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Research paper



Legal issues in tourism development projects: text network analysis of precedents

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Abstract

We had investigated the structural characteristics of legal issues arising from the public tourism development projects in Korea by conducting for the first time a comparative analysis on the semantic relationships among unstructured data of keywords, which are listed in the text of precedents of courts' ruling. Using text network analysis method, we analyzed the text networks linked or related among 140,656 words in 76 precedents of Korea's courts from 1975 to 2015. The results showed that high level of centrality was found in the keywords like land, project operators (governors and mayors), and public welfare. These means most of legal disputes were filed against governors or mayors because of conflicting interests in lands and legitimacy of public projects and their development plans. Such explanation of structural causes was based only partially on some literatures using the traditional method of contextual analysis on some of statues themselves but now we could confirm that it was supported quantitatively and comprehensively by the text network analysis on all precedents in this paper. It implies further that Korean tourism business law needs to be amended to clarify the standards for eminent domain and complement the process of arbitration, reconciliation and mediation to minimize the cost of litigations.

Keywords: *Tourism development project, Legal issues, Lawsuit, Text Network Analysis.*

1. Introduction

The origin of full-scale tourism developments by Korean govern-ment could be traced back to the enactment of 2 major laws, tourism business act and tourism complex development act in 1975. And since these 2 laws merged into Tourism Promotion Act in 1986, many tourism development projects of different types have been undertaken. As of end of 2017, 225 tourism destinations and 41 tourism complexes were either under development or under operation after their completion while annually more than 250 projects of cultural, ecological and green tourism resource development were still under way each year (MCST, 2017). Despite of their positive effects of quantitative growth, many litigations and disputes have also been brought about by tourism developments (Roh et al., 2012; Park, 2016), which resulted in economic burden and waste in time to disputing parties. Lee & Kang(2010) and Chang(2011) also criticized that some incompleteness inherent to related laws such as abstract expressions in Tourism Promotion Act was attributed to intermittent disputes and stands in the way of rational and advance resolutions among parties.

However, despite of chronic disputes surrounding tourism development projects, the academic and research community could not provide comprehensive explanations on types, scopes, characteristics and root causes of conflicts. As the disputes have not been adjusted or settled in right manner, there has also been mounting trend of social and private costs borne by conflicting parties. Up until now, most of tourism developments in Korea were carried out mainly by the government and so disputes were more likely to arise from conflicts between private and public interests rather than between private interests. The court decisions got appealed in many cases while same or similar disputes occur repetitively, laying financial and time burden on both parties (Yoon, 2015). And it might be a necessary step and a role of government to collect and analyze the dispute cases to introduce some legal or institutional measures to rectify the weakness of the current system.

Court sentencing documents related to tourism developments were regarded important as they were thought of as the basis for solutions to disputes and conflicts while enabling parties to under-stand the patterns and structures of issues more precisely(Hong, 2007; Park, 2017; Park & Lee, 2017).

Even though legal precedents were a sort of unstructured text, the analysis of precedents related to tourism development projects has never been carried out comprehensively either by a traditional context analysis method or by text network analysis.

There have been extensive studies of precedents in the areas of law, civil development, and housing construction. However, we can see few studies in the field of tourism in Korea while comparative analysis was not always feasible as legal system was not common across countries. Previous studies of precedents in other areas resort mostly to the method of context analysis, which was prone to selection bias or subjective assessment by researchers in the process of data collection, classification and analysis (Park & Leydesdorff, 2004).

The purpose of this paper is to investigate for the first time and comprehensively the structure of main legal issues revealed in all courts' precedents related to those tourism developments, which were completed from 1975 to 2015 in Korea. We applied the method of text network analysis to precedents to find out the structure, which can be referred to as some basis for future amendments or enactments of

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related laws and orders. This will be meaningful as we can draw some objective and quantified results overcoming the limitation and shortcomings of traditional context analysis, while providing policy-makers and practitioners with useful and important tips for legislative revision and institutional improvements.
The research result contributes to interpreting the structural factors causing legal disputes better and understanding major points to supplement the tourism-related laws by visualizing their characteristics and structures quantitatively. This can contribute to minimize social and private costs incurred by unnecessary disputes as well as to prevent conflicts in advance from developing to go to courts for settlement, while saving innocent victims.

2. Theoretical background

2.1. Statutes related to tourism development projects

In Korea, it entails complex procedures and processes to carry out tourism development projects. It is because the government has set up a series of regulations and guidance to promote public interests in many cases at the expense of private interests and protect the environment which can be damaged by developments. Conflicts of interest can also frequently occur as most of tourism development projects involve the participation both by the public agencies and private entities and parties usually seek to achieve their own goals first. The factors of possible disputes and conflicts can be found in the related statues and laws.
While there is no widely-accepted definition of tourism development projects, according to article 2 of Tourism Promotion Act, the term "tourism business" means the business of providing tourists with transportation, lodging, meals, sports, amusement, recreation, or other services, or making any facility available to tourists in connection with tourism (MGL, 2018). In addition, regarding tourism development projects, the article 6 states the term "tourist destination" means a place designated under this act where natural or cultural resources for tourism are available and basic conveniences for tourists have also been made available. The article 7 also says that the term "tourism complex" means an area designated as a base for tourism pursuant to this Act, in which diverse tourist facilities are or shall be developed comprehensively for various types of tourism and relaxation of tourists. Taking into consideration the definitions of "private developer (article 8), development plan (article 9), and support facilities (article 10), tourism development projects are understood to mean a series of projects planned by the public or private agents and conducted according to legal procedures in order to improve the productivity or economic values of tourism resources or tourist facilities for tourists.
According to Tourism Promotion Act, tourism businesses could be classified into 7 categories: travel business, tourist accommodation business, tourist-use facility business, international conference business, casino business, amusement facility business, and tourist convenience facility business. Travel business is also divided into 3 sub-categories like general, overseas and domestic travel businesses. Hotel business consists of 7 sub-categories like tourist hotel business, floating hotel business, Korea traditional hotel business, family hotel business, hostel business, small hotel business, and medical tourist hotel business. Tourist-use facility business has also 6 branches like specialized resort business, general resort complex business, class I and II resort complex business, campground business, and tourist excursion ship business. International conference business consists of international conference facility business and international conference planning business. Amusement facility business has 3 types of general, ordinary and miscellaneous. Subcategories of tourist convenience facility businesses are tourist entertainment restaurant business, tourist theatre entertainment business, entertainment restaurant business exclusively for foreigners, tourist restaurant business, circular tour bus business, tourist photography business, passenger vehicle terminal facility business, tourist pension business, tourist tramway business, traditional Korean housing experience business and tourist duty-free business.
Tourism development projects were thought of as active development businesses carried out in land or space with a view to operating tourism business. The purpose to pursue such tourism development projects was to enhance the values of tourism resources or facilities by providing with spaces to satisfy tourist needs and desires and to promote economic development through development investment while catering to tourist convenience. This process covers the realm of private economic activities to provide goods and services to tourist in return for economic incentives. However, in some cases in which such private activities may be associated with public interest and influence depending on their purposes, conflicts among parties can lead to litigations as diverse rights entitled to individuals can be partly infringed.
One of the features in tourism development projects was that every step from planning to securing lands to construction to operation was carried out following legal procedures under related statutes. So laws related to tourism development projects have characteristics both of public administration statutes and tourism statutes. The tourism statutes as public administration regulation were characterized by their discretion which can be represented as commands and guidance by administrative authorities and their superiority. They have features of order statute, profit compensation, and government notice.
The statutes related to tourism development projects could be classified into those in narrower and broader definitions depending on the extent of involvement. The tourism-related statutes in narrower definition were framework act on tourism, tourism promotion act, Tourism promotion and development fund act, and International conference industry promotion act. Table 1 lists up the tourism-related statutes in narrower definition and their purposes of enactment.

Table 1: Related statutes in narrower definition

Laws	Purpose
Framework act on tourism	The purpose of this Act is to contribute to the promotion of closer international relations and improvement of the national economy and welfare and to the sound development of national tourism by providing for a direction for the promotion of tourism and tourism policies.
Tourism promotion act	The purposes of this Act are to contribute to the promotion of tourism by creating an environment favorable to tourism, developing resources for tourism, and fostering the tourism industry
Tourism promotion and development fund act	The purpose of this Act is to establish a tourism promotion and development fund to efficiently develop the tourism industry and contribute to the increase of foreign exchange earnings through tourism.
International conference industry promotion act	The purpose of this Act is to contribute to the development of the tourism industry and improvement of the national economy by aggressively attracting international conferences, assisting in hosting smooth-running international conferences and fostering and promoting the international conference industry.

Sources: National law information center(2018), Korean representative legal information web site.

The tourism-related statutes in broader definition were listed in Table 2. Comprehensive understanding on the relationship among individual statutes and laws as depicted in Figure 1 is essential to carry out any tourism development projects seamlessly. Most of disputes and litigations are triggered by confusion on priority in applying statutes and misinterpretation of the purposes of laws (Lee and Kang, 2010; Yoon, 2015; Park 2016).

Table 2: Related statutes in broader definition

Categories	Statutes
Land development laws	National land planning and utilization act, urban development act, Seoul metropolitan area readjustment planning act, Special act on the development of enterprise cities, etc.
Tourism business laws	Tourism promotion act, Installation and utilization of sports facilities act, Hot spring act, Natural parks act, Museum and art gallery support act, Juvenile activity promotion act, Forestry act, Mountains districts management act, Rearrangement of agricultural and fishing villages act, Act on the creation and furtherance of arboretums and gardens, etc.
Development exemption laws	Act on special cases concerning the regulation of the special economic zones for specialized regional development, Promotion of private capital into social overhead capital investment act, Foreign investment promotion act, Balanced regional development and supports for local small and medium enterprises act, Special act on the establishment of Jeju special self-governing province and the development of free international city, Special act on the assistance to the development of abandoned mine areas, Border area support act, etc.
Building laws	Building act, Parking lot act, Fire services act, etc.
Influence valuation laws	Countermeasures against natural disasters act, Act on assessment of impacts of works on environment, traffic, disasters, Urban traffic improvement promotion act, etc.
Finance tax laws	Act on special cases concerning budget and accounts, Subsidy management act, Local finance act, Act on acquisition of and compensation for land, tec. for public works projects. Restitution of development gains act, Corporate tax act, Income tax act, Restriction of special taxation act, Local tax act, etc.

Sources: National law Information center (2018), Korean representative legal information web site.

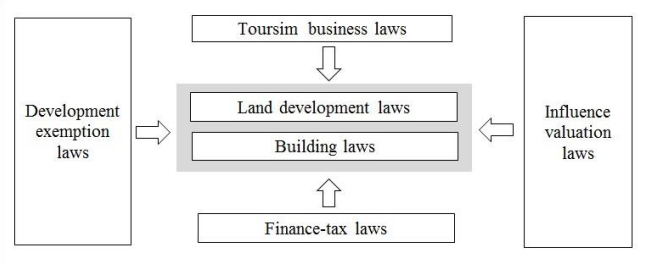


Fig. 1: The system of statutes related to tourism development projects Sources: Korea National Tourism Organization (2017). 2018 Tourism development manual. p.31.

2.2 Text Network Analysis Method

Text network analysis (TNA), also called network text analysis (NTA) or semantic network analysis, is a research method to distract networks of concepts and links among words or languages in the text to analyse the relationships between languages (Diesner & Carley, 2005). This can be useful in improving our understanding and knowledge on the specific phenomenon by linking both social network analysis and context analysis (Park, 2016). It helps to better interpret any phenomena by using the network, which can be built up through marking or indicating the relationships among languages. This is one of methods, like context analysis or theoretical analysis, but the difference lies in its analysing the text with qualitative data consisting of languages (Ha et al., 2015; Park, 2017).

Text network analysis may be useful in finding out a meaningful relationships or associations between one keyword and the other, overcoming the limitations encountered in the method of content analysis. The traditional content analysis has its merit as the re-searchers can select the objects of study, read the text or message, and code to analyse with more ease. However, it also encounters several limitations since the results can suffer from probable bias in selecting the objects of study by following the arbitrary classification system. The effectiveness of research was usually low compared to researchers' efforts and it was not easy to prove the objective validity with the result. For this reason, computer-aided text analysis was utilized as an alternative other than depending on the human researcher. The key difference between the traditional text analysis based on context analysis and computer-aided analysis was that the former focuses on the frequency of words in the same classification designated in advance while the latter emphasizes which words appear simultaneously together with a specific word.

And with taking advantage of visualizing networks, text network analysis has its merit in enabling researchers to find out the structural relationships, roles and influence between languages and their intrinsic meanings, which were usually not revealed in research outcomes by other methods using simple frequency analysis.

Network analysis applies widely to physics, biology, economics and sociology through complex network theory since it was acknowledged that features occur in a complex network. Graph and matrix were mainly used in network modelling. Graph consists of nodes(vertices) which were interrelated with links(edges). Directed graphs show directionality in relationship such as whether the direction was one-way or two-way while undirected graphs describe the existence of relationship but not the direction of the relationship. The network graphs also expressed the intensity of relationship. It was called a binary network if it describes only whether there exists the relationship or not, while it will be classified as a valued network if it expresses the intensity as well as the relationship itself(Figure 2).

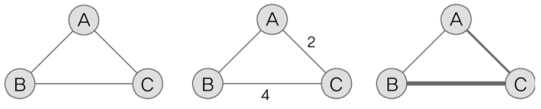


Fig. 2: Binary and valued network graph

In network analysis, the indicators of centrality identify the most important nodes within the graph. The centrality indicators measure the extent or importance of links between one node and the other. The importance could be measured either in terms of type of flow or cohesiveness. So, centrality could be classified either by type of flow or based on how they measure cohesiveness (Marc et al., 2009; Derek et al., 2010). Table 3 lists up 4 important centrality indicators used frequently in the literature. Each indicator is useful as a tool to interpret the relative importance or centrality of specific keywords and the network structure.

As listed in Table 3, the centrality indicators are diverse depending on their focus of analysis and generally 5 indicators such as degree centrality, closeness centrality, betweenness centrality, and eigenvector centrality were most frequently used. Degree centrality measures how closely one node was linked to the other node while closeness centrality indicates how closely a node was linked to the center of the network. Betweenness centrality measure how much role a node plays as a mediator between one node and the other. Eigenvector centrality reflects the importance of other nodes linked to each node and therefore the degree centrality of all nodes directly linked to one node were included as weights in calculating this indicator.

The softwares for network analysis were classified into 2 categories, analysis package and visualization tool. The visualization tool was developed mainly as a visualization module in network analysis package or stand-alone visualization device. Among the analysis package used generally were Netminer, UCINET, ORA, Pajek and so on. Among visualization tools were NetDraw, Gephi and NodeXL. Among these, Netminer, UCINET and Pajek include both analysis and visualization programs. And Network Workbenck and Net-workX may be counted as large-scale analysis packages.

Table 3: Indicator of Network Centrality

Class	Contents
Degree centrality	to measure the number of links incident on a node
Betweenness centrality	to measure the extent of bridge role of one node in connecting two other nodes
Closeness centrality	to measure the average length of the shortest path between the node and all other nodes in the graph
Eigenvector centrality	to measure the influence of a node in a network. It assigns relative scores to all nodes in the network based on the concept that connections to high-scoring nodes contribute more to the score of the node

Sources: Marc et al. (2009); Elizabeth et al. (2009); Derek et al. (2010); Park & Lee (2017).

3. Research methodology and analysis design

3.1. Objects of analysis

This study covers all precedents of courts from district to appellation to supreme to constitutional courts, related to tourism developments from 1975 to date. We applied the text network analysis method in analyzing those courts' precedents. We collected information from literatures and data-bases of Korean Ministry of Government Legislation (MGL, 2018), National Law Information Centre, Supreme Court's General Law Information (2015), LAWnB DB (2015) - Korea legal database and Law Village LX2016 at Korea Court Library - the search software for legal information.

This study covers the period from 1975 when full-scale tourism development projects start officially to the present. We could collect 8 constitutional court precedents with 28,201 words in 689.8 pages, 37 supreme court precedents with 37,843 words in 999.2 pages since 1976, 29 appellation court precedents with 57,548 words in 1,417.2 pages since 1975 and 10 district court precedents with 17,064 in 339.9 pages since 1996. Table 4 shows that the precedents consist of a large volume of documents even though the number of precedents was only total of 76. The word is the smallest unit of language which can be used solely with some meaning.

Table 4: Description of Analysing Precedents

Class	Number of precedents	Pages	Words	Coverage period
Constitutional Court	8	689.8	28,201	2000~2015
Supreme Court	37	999.2	37,843	1976~2015
Appellation Court	29	1,417.2	57,548	1975~2015
District Court	10	339.9	17,064	1996~2015
Total	76	3,446.1	140,656	-

3.2. Procedure of analysis

We apply the text network analysis to analyzing the precedents related to tourism development projects. This method has its advantage in figuring out the structural network and visualizing it quantitatively. It also helps us to infer the cause-effect relationship or links among specific issues and so shed lights how to design the solutions.

The analysis procedure was depicted in Figure 3. It has 3 steps of data preconditioning, data cleaning and data analyzing. First, in the data preconditioning step, we deleted any words of no importance like postpositions, conjunctive adverbs or function words from the text of precedents. Second, in data cleaning, we selected keywords out of words in all of court precedents using KrKwic. And 3 experts conducted triangulation for crosscheck to end up finally with 31 keywords for constitutional court, 56 keywords for supreme court precedent, 70 keywords from appellation court precedents, and 61 keywords for district courts.

Thirdly, in the step of data analyzing, for frequency analysis and 1 mode matrix transposing, we used KrKwic(Korean Key Words in Context) developed by Park & Leydesdorff (2004), which consists of Krtext, Krtitle and Krwords. NodeXL 1.01 was used for network analysis and visualization.

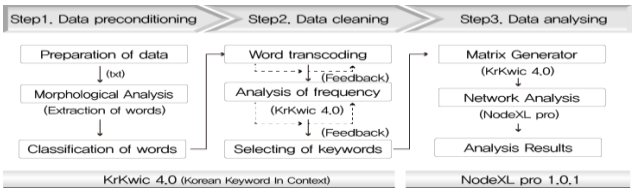


Fig. 3: Analysis Procedure

Krtext was used to analyze a relatively large volume of messages in an individual text file and Krtitle was a main tool to investigate subjective messages, abstracts, titles of research papers, websites, news articles, and legal codes while the keywords and other important issues can be traced through frequency analysis using Krwords. Keywords were selected either if they appear more frequently beyond a designated threshold or were evaluated as appropriate for purpose by researchers. As precedents do not provide any indices or keywords, 3 experts who have full understanding the specialties of tourism development projects selected keywords qualitatively through several rounds of screening and simulations.

4. Analysis results

4.1. Constitutional court precedents

We had selected the final 36 keywords out of 28,201 words in 689.8 pages through 2 rounds of morphological analysis and classification of words/word transcoding. More concretely, the keywords with a quantitatively high frequency were screened out of those keywords qualitatively meaningful in precedents of tourism development projects, applying KrKwic to 2,715 keywords following the morphological analysis of constitutional court precedents. 135 keywords were selected from 389 keywords of the intermediate triage through classification of words and word transcoding with draft 2,715 keywords. The final 36 keywords were decided from same repetitive screening processes using KrKwic for these draft keywords. The analysis results show the summary of network of constitutional court precedents in Table 5.

Table 5: Network Analysis of Constitutional court precedents

Contents	Values
Graph Type	Undirected
Vertices	36
Total Edges	235
Connected Components	7
Single-Vertex Connected Components	6
Maximum Vertices in a Connected Component	30
Maximum Edges in a Connected Component	235
Maximum Geodesic Distance Diameter	2
Average Geodesic Distance	1.4111
Graph Density	0.3730

The centrality indices explain the topological positions of main words (keywords) in the network. The higher the value was, the closer to the center it was located while it has a stronger relationship and association with many keywords. Table 6 lists top 20 keywords from constitutional court precedents with higher network centrality.

Table 6: Network centrality of Constitutional court precedents (TOP20)

Keywords		1	2	3	4	5
1	appropriation	27	0.032	27.255	0.052	1.638
2	land	26	0.031	22.883	0.051	1.574
3	creation project	24	0.029	15.708	0.049	1.458
4	right of eminent domain	23	0.029	16.182	0.046	1.409
5	project operator	23	0.029	12.105	0.048	1.397
6	property right	22	0.028	12.747	0.045	1.351
7	resident	21	0.027	19.218	0.040	1.317
8	infringement	21	0.027	13.247	0.043	1.301
9	tourism complex	19	0.026	8.574	0.040	1.182
10	urban planning facilities	18	0.025	7.427	0.038	1.128
11	expropriation	17	0.024	5.935	0.036	1.076
12	mayor·governor	17	0.024	5.765	0.036	1.072
13	reward	17	0.024	3.532	0.039	1.057
14	tourism promotion act	16	0.024	5.799	0.033	1.020
15	project for complex development	15	0.023	5.769	0.031	0.973
16	ownership	14	0.023	2.299	0.032	0.901
17	public works projects	14	0.023	1.919	0.032	0.897
18	head of si·gun·gu	13	0.022	2.873	0.028	0.856
19	creation plan	13	0.022	1.071	0.031	0.841
20	tourist facilities	13	0.022	2.181	0.028	0.854

Note: 1=degree centrality, 2= closeness centrality, 3=betweenness centrality, 4=eigenvector centrality, 5=page rank.

The analysis results showed the keywords like ‘appropriation,’ ‘land,’ ‘creation project,’ ‘eminent domain,’ ‘project operator,’ ‘property right,’ ‘infringement,’ and ‘tourism operator among major keywords have higher values of centrality. This means that there have been a lot of litigations related to infringement of property right due to appropriation and eminent domain as land is involved as a basis of development in most of tourism development projects. One of reasons why many of such litigations arise was because the principal agent to appropriate the land is not clearly defined in tourism promotion act. Especially, it is because the private agent may be entitled to eminent domain whenever they meet certain requirements for creation projects of tourism complex. The results confirmed that it was necessary to set up legal standards on requirements and qualifications of agents entitled to eminent domain in tourism promotion act.

The result of betweenness centrality is almost identical to that of degree centrality as those keywords like ‘appropriation,’ ‘land,’ ‘residents,’ ‘eminent domain,’ ‘creation project,’ ‘infringement,’ ‘property right,’ ‘project operator,’ ‘tourism complex,’ and ‘urban planning facility’ in superordinate level turned out to bridge among subordinate keywords. The keywords with higher betweenness centrality were so useful as to help us understand conceptual conflicts and disputes arising from tourism development projects. It is possible to infer that

the important factors in tourism development like ‘appropriation,’ ‘land,’ ‘residents,’ and ‘eminent domain’ should be supplemented legally and institutionally or defined more clearly.

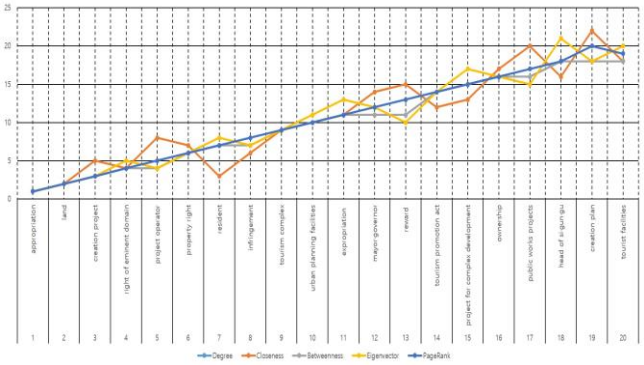


Fig. 4: Comparison of Constitutional court precedents centrality rank in tourism development projects

Next the visualization of analysis result from constitutional court precedents related to tourism development projects was presented in Figure 5. The size of node gets larger as the betweenness centrality becomes higher while the color of node gets reddish as the index goes up and it turns blue as it decreases. It shows that ‘appropriation’ and ‘land’ link well between other major keywords while ‘residents’ was less frequent but has higher betweenness.

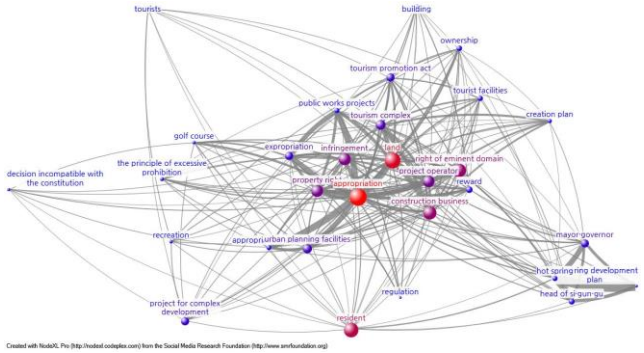


Fig. 5: Network Analysis of Constitutional court precedents

The results of network cluster analysis were depicted in Figure 6 showing ‘appropriation,’ ‘property rights,’ ‘infringement,’ and ‘residents’ belong to G1 group and G2 group cluster around ‘land,’ ‘creation project,’ ‘tourism complex’ while ‘eminent domain’ and ‘project operator’ belong to G3 group. In many cases it was confirmed that local residents were owners of those lands involved in tourism development projects and so it was highly likely to lead to litigations surrounding infringement of property rights due to eminent domain. Especially in cases of tourism complex creation projects in which lands are the key factors of projects, the litigations around eminent domain by project operator form a cluster and it was confirmed that it was necessary to define more clearly the concepts of project operators and eminent domain in statutes and institutional regulations.

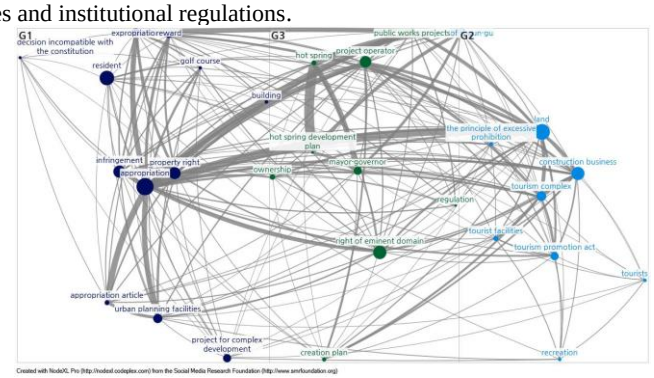


Fig. 6: Clustering analysis of Constitutional court precedents

4.2. Supreme court precedents

We have selected the final 56 keywords from 38,843 words in 999.2 pages of all supreme court precedents related to tourism development projects through 2 rounds of morphological analysis and classification of words/ word transcoding. Using KrKwic, qualitative keywords with high frequency were selected first and then went through triangulation by 3 tourism development experts. The triangulation was a screening method to select keywords by cross-checking to secure the validity. The final 56 keywords in the last round were sifted through classification of words and word transcoding from 7,706 keywords to 4,065 keywords in the first round to 674 keywords in the second round.

As described in Table 7, the result of network characteristics of supreme court precedents showed that the graph density is 0.3195 far from 1 and it means there were many keywords com-pared to unique edges. Among keywords, those like ‘land,’ ‘tour-ism promotion act,’ ‘mayor-governor,’ ‘development project,’ ‘acquisition,’ ‘tourist destination,’ ‘heads of si-gun-gu,’ ‘public works project,’ and ‘public welfare’ show high centrality. It suggests that main issues of disputes were associated with authorization and permission of heads of

local governments. These were because heads of si-gun-gu were the project operators of tourist destinations that public welfare was recognized as the aim of projects.

Table 7: Network Analysis of Supreme court precedents

Contents	Values
Graph Type	Undirected
Vertices	56
Total Edges	492
Connected Components	2
Single-Vertex Connected Components	1
Maximum Vertices in a Connected Component	55
Maximum Edges in a Connected Component	492
Maximum Geodesic Distance Diameter	3
Average Geodesic Distance	1.6608
Graph Density	0.3195

Betweenness centrality also is similar with degree centrality as those keywords like 'land,' 'tourism promotion act,' 'governor,' 'tourist destination,' 'acquisition,' and 'heads of si-gun-gu' in the level of superordinate concept turn out to bridge between subordinate keywords. Si-gun-gu are 3 types of basic local public administration unit in Korea.

Eigenvector centrality shows little difference in overall ranks from betweenness and closeness centrality. Keywords of high influence within network structure are 'land,' 'tourism development act,' 'governor,' 'development project,' and 'tourist destination.' Page ranks also show similar results with other centrality indices. Figure 7 shows comparison in centrality ranks among centrality indices derived from supreme court precedents related to tourism development projects.

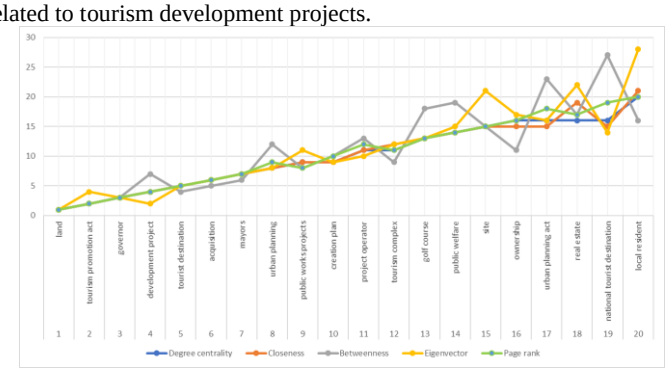


Fig. 7: Comparison of Supreme court precedents centrality rank in tourism development projects

Table 8: Network centrality of Supreme court precedents (TOP20)

Keywords		1	2	3	4	5
1	land	49	0.0169	205.1	0.040	2.559
2	tourism promotion act	42	0.0152	155.1	0.035	2.274
3	governor	40	0.0147	91.0	0.036	2.081
4	development project	39	0.0145	61.7	0.037	1.979
5	tourist destination	37	0.0141	76.9	0.033	1.949
6	acquisition	35	0.0137	65.4	0.032	1.840
7	mayors	33	0.0133	64.2	0.031	1.744
8	urban planning	28	0.0125	18.8	0.030	1.442
9	public works projects	27	0.0123	40.8	0.026	1.458
10	creation plan	27	0.0123	21.1	0.027	1.416
11	project operator	26	0.0122	16.4	0.027	1.354
12	tourism complex	26	0.0120	22.2	0.026	1.373
13	golf course	23	0.0118	12.1	0.025	1.210
14	public welfare	22	0.0116	11.2	0.023	1.178
15	site	21	0.0114	15.4	0.020	1.152
16	ownership	20	0.0114	19.6	0.022	1.129
17	urban planning act	20	0.0114	7.0	0.022	1.068
18	real estate	20	0.0112	12.7	0.020	1.112
19	national tourist destination	20	0.0114	5.3	0.023	1.067
20	local resident	19	0.0111	14.1	0.018	1.065

Note: 1=degree centrality, 2= closeness centrality, 3=betweenness centrality, 4=eigenvector centrality, 5=page rank.

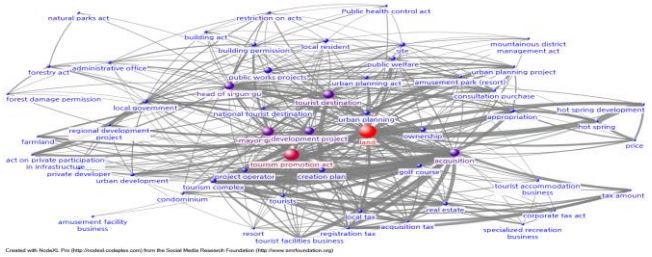


Fig. 8: Network Analysis of Supreme court precedents

Figure 8 depicts the visualization of network analysis of supreme court precedents related to tourism development projects. The thickness of lines reflects common frequencies of two keywords. It can be inferred that litigations in supreme court arise because of activities like acquisition of land for tourism development projects. We can figure out that the owners of lands file litigations against mayors and governors over property rights of lands regarding their carrying out tourism development projects according to tourism promotion act.
Figure 9 shows a cluster analysis result using Clauset-Newman-Moore algorithm. Keywords can be analyzed with 4 clusters, where 'tourism promotion act,' 'development project,' and 'acquisition' belong to G1 group, G2 includes those like 'tourist destination,' 'heads of si-gun-gu', G3 covers 'governor' and finally G4 includes 'land'.

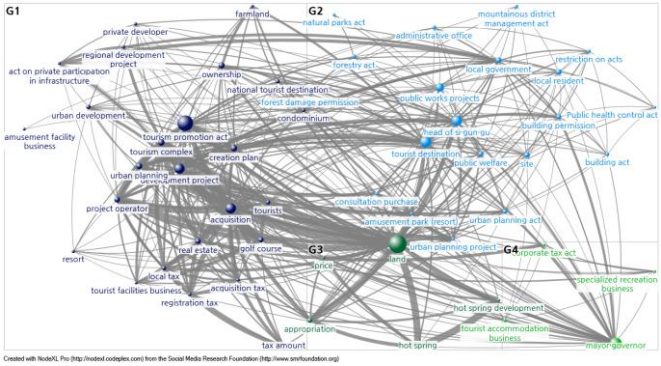


Fig. 9: Clustering analysis of Supreme court precedents

4.3. Appellation court precedents

The analysis of appellation court precedents shows lower graph density of 0.2712 compared to that of supreme court precedents, which implies that more diverse issues led to legal disputes in the appellation court. The pattern is similar with that of supreme court cases while there are more of authorization and permission issues in appellation court precedents.

Table 9: Network Analysis of Appellation court precedents

Contents	Values
Graph Type	Undirected
Vertices	70
Total Edges	655
Connected Components	3
Single-Vertex Connected Components	2
Maximum Vertices in a Connected Component	68
Maximum Edges in a Connected Component	655
Maximum Geodesic Distance Diameter	3
Average Geodesic Distance	1.7413
Graph Density	0.2712

In Figure 10 and Table 9 the analysis of appellation court precedents shows lower graph density of 0.2712 compared to that of supreme court precedents, which implies that litigations over more diverse issues were filed to the appellation court. Top 20 keywords with high degree centrality were listed in Figure 10 and Table 10 together with their ranks in other indices. Among top 9 were 'land,' 'tourist destination,' 'facilities,' 'acquisition,' 'tourism promotion act,' 'creation plan,' 'project operator,' 'authorization/permit,' and 'governor.' This is a result similar with that of supreme court precedents. Main issue is associated with authorization and permit in tourism development projects.
Betweenness centrality also is similar with degree centrality as those keywords like 'land,' 'facility,' 'tourist destination,' 'authorization/permit,' and 'tourist lodging facility' in the level of super-ordinate concept turn out to bridge between subordinate keywords. 'authorization/permit,' 'tourist lodging facilities,' 'assessment of works on environment,' 'tax,' and 'exemption' were those keywords of higher betweenness centrality and were frequently mentioned in appellation court precedents. These were associated with litigations disputing over authorization/permit and tax, which are likely to emerge during the process of tourism development projects. Eigenvector centrality also shows little change in ranks comparing with both degree and closeness centrality. Those keywords of high influence within the network are 'land,' 'tourist destination,' 'tourism promotion act,' 'acquisition,' and 'facility'.
As we can see in Figure 10, 'local tax,' 'local tax act,' 'tourism complex,' and 'tourism complex project operator' show lower centrality in betweenness compared with other centrality indices like degree centrality and closeness centrality. 'Infringement' was a keyword of high betweenness centrality but other keywords showed similar pattern of ranks across centrality index.

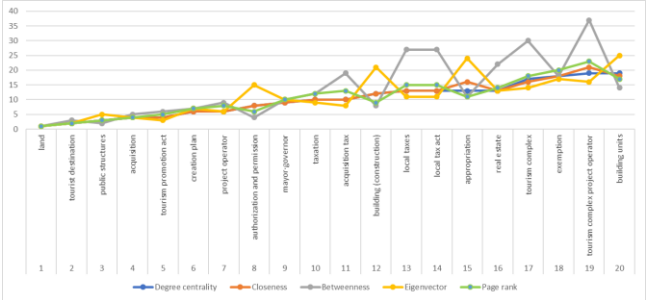


Fig. 10: Comparison of Appellation court precedents centrality rank in tourism development projects

Figure 11 provides a visualization of network analysis of appellation court precedents related to tourism development projects. For this visualization, we applied same rule of node size, node color, and thickness of line. 'Land' showed a relatively high betweenness centrality together with 'facilities' and 'tourist destination'.

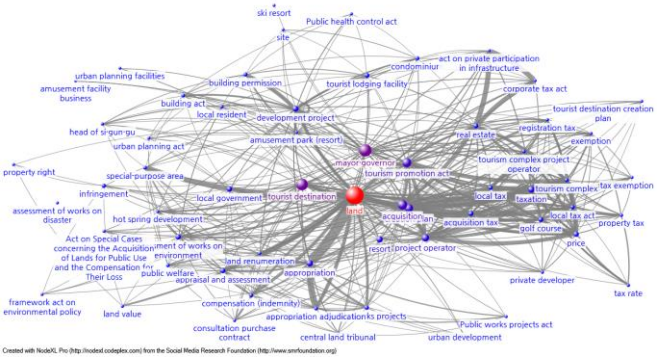


Fig. 11: Network Analysis of Appellation court precedents

Table 10: Network centrality of Appellation court precedents (TOP20)

Keywords		1	2	3	4	5
1	land	58	0.0132	383.9	0.035	2.854
2	tourist destination	48	0.0116	155.4	0.032	2.288
3	public structures	44	0.0111	172.2	0.030	2.219
4	acquisition	43	0.0110	100.5	0.031	2.037
5	tourism promotion act	43	0.0110	90.6	0.031	2.032
6	creation plan	37	0.0103	73.4	0.028	1.763
7	project operator	37	0.0103	55.4	0.028	1.745
8	Authorization and permission	36	0.0102	124.0	0.023	1.849
9	mayor·governor	31	0.0097	42.6	0.025	1.484
10	taxation	30	0.0096	40.2	0.025	1.435
11	acquisition tax	30	0.0096	20.2	0.025	1.413
12	building (construction)	29	0.0095	56.3	0.019	1.499
13	local taxes	28	0.0094	11.8	0.018	1.441
14	local tax act	28	0.0094	11.8	0.024	1.334
15	appropriation	28	0.0093	40.9	0.024	1.321
16	real estate	28	0.0094	17.5	0.024	1.321
17	tourism complex	27	0.0093	9.1	0.024	1.273
18	exemption	26	0.0092	22.6	0.022	1.255
19	tourism complex project operator	25	0.0091	4.9	0.018	1.256
20	building units	25	0.0092	32.4	0.017	1.300

Note: 1=degree centrality, 2= closeness centrality, 3=betweenness centrality, 4=eigenvector centrality, 5=page rank.

Figure 12 depicts the clustering analysis of appellation court precedents. The results show that 'land,' 'facilities,' and 'authorization and permit' belong to G1 and 'real estate,' 'tourism promotion act,' and 'tourist destination' to G2 while 'acquisition' and 'appropriation adjudication' cluster together in G3.

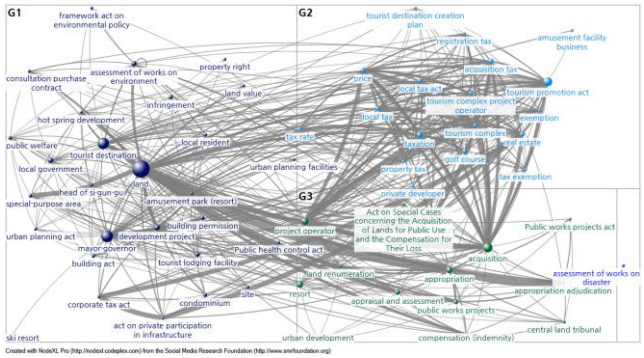


Fig. 12: Clustering analysis of Appellation court precedents

4.4. District court precedents

We have selected the final 61 keywords out of 17,064 words in 339.9 pages through 2 rounds of morphological analysis and classification of words/word transcoding. The keywords with a quantitatively high frequency were screened out of those keywords qualitatively meaningful in precedents of tourism development projects, applying KrKwic to 4,806 keywords following the morphological analysis of district court precedents. 190 keywords were selected from 1,968 draft keywords through classification of words and word transcoding. The final 61 keywords were decided from same repetitive screening processes using KrKwic for semi-final 244 keywords. The analysis results show the summary of network of district court precedents in Table 11.

Table 11: Network Analysis of District court precedents

Contents	Values
Graph Type	Undirected
Vertices	61
Total Edges	508
Connected Components	2
Single-Vertex Connected Components	1
Maximum Vertices in a Connected Component	60
Maximum Edges in a Connected Component	508
Maximum Geodesic Distance Diameter	4
Average Geodesic Distance	1.755
Graph Density	0.2276

The analysis of network centrality for district court precedents was presented in Table 12. The eigenvector centrality of district court do not show any significant variation in ranks except in some items. The influence in the network is higher in those keywords like 'land,' 'designation,' 'project operator,' 'disposition,' and tourism promotion act'.

Table 12: Network centrality of District court precedents (TOP20)

Keywords		1	2	3	4	5
1	land	49	0.0145	259.1	0.039	2.719
2	disposition	43	0.0133	203.8	0.034	2.399
3	designation	41	0.0130	129.3	0.035	2.249
4	project operator	39	0.0127	94.1	0.035	2.091
5	head of si	36	0.0122	85.9	0.033	1.962
6	tourism promotion act	35	0.0119	42.3	0.031	1.813
7	tourist destination	34	0.0118	67.0	0.032	1.860
8	appropriation	33	0.0116	72.8	0.017	1.168
9	project operator	29	0.0111	23.7	0.034	1.847
10	mayor·governor	28	0.0110	24.6	0.013	0.983
11	project for tourism complex development	27	0.0109	24.5	0.012	0.796
12	investment	24	0.0105	11.7	0.028	1.512
13	governor	23	0.0102	10.8	0.028	1.470
14	resort	23	0.0104	13.1	0.019	1.213
15	project site	21	0.0101	23.4	0.030	1.547
16	architecture	21	0.0102	24.4	0.023	1.185
17	urban planning act	21	0.0103	17.7	0.008	0.856
18	condominium	21	0.0101	11.2	0.017	1.132
19	reduction	19	0.0099	50.0	0.022	1.186
20	local tax act	19	0.0099	18.4	0.024	1.267

Note: 1=degree centrality, 2= closeness centrality, 3=betweenness centrality, 4=eigenvector centrality, 5=page rank.

Next the comparison of centrality among major keywords of district court precedents were depicted in Figure 12. All indicators do not show any significant difference from degree centrality except in some items.

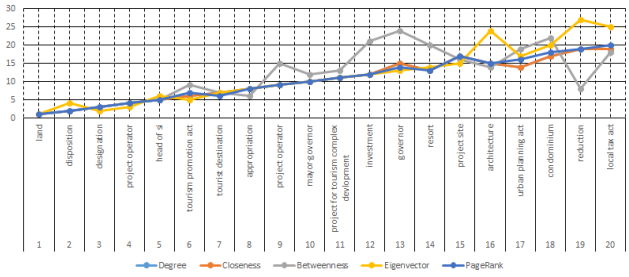


Fig. 10: Comparison of District court precedents centrality rank in tourism development projects

Figure 13 presents the visualization of network analysis results of district court precedents related to tourism development projects. It shows the keywords like 'land' and 'disposal' bridge better between other keywords.

The results of network cluster analysis were depicted in Figure 14 showing 'appropriation,' 'project operators,' and 'tourist destination' belong to G1 group and G2 group cluster around 'disposal' 'designation,' and 'mayor' while 'land' and 'property right' belong to G3 group.

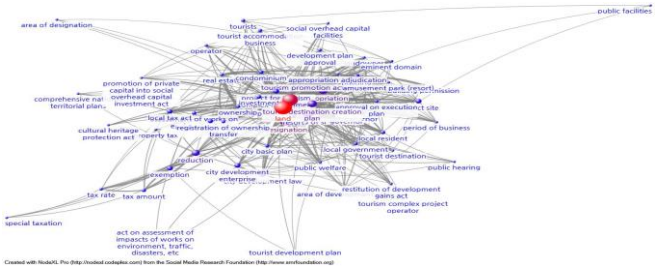


Fig. 13: Network Analysis of District court precedents

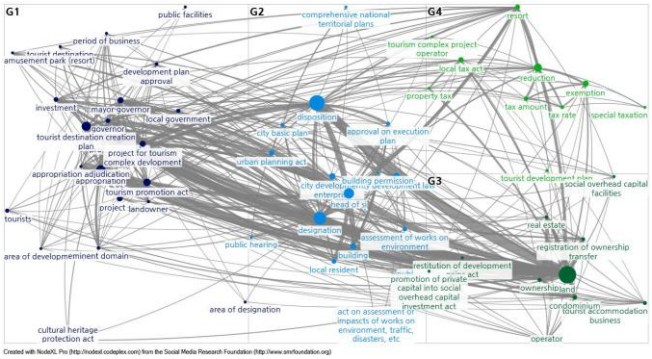


Fig. 14: Clustering analysis of District court precedents

4.5. The whole of court precedents

Table 13 show the results of network analysis on all precedents from district court, appellation court, supreme court, and constitutional court. The numbers of keywords are 36 for constitutional, 56 for supreme, 70 for appellation, and 61 for district court. Total edges turn out to be 6,444. The link assembly among keywords is a component when a keyword is directly or indirectly linked to each other. The number of components is 6.

Table 13: Network Analysis of the whole precedents

Contents	Values
Graph Type	Undirected
Vertices	150
Total Edges	6,444
Connected Components	6
Single-Vertex Connected Components	5
Maximum Vertices in a Connected Component	145
Maximum Edges in a Connected Component	6,444
Maximum Geodesic Distance Diameter	3
Average Geodesic Distance	1.6863
Graph Density	0.2883

The analysis of network centrality for the whole of precedents was presented in Table 14. The major keywords with higher degree centrality are ‘land,’ ‘designation,’ ‘disposal,’ ‘tourist destination,’ ‘project operator,’ ‘tourism promotion act,’ ‘acquisition,’ ‘development project’, which implies that many litigations may arise at the stage of designation, one of several processes of tourism development project and it involves the land as the basis of the project. And it shows most of related statutes were associated with ‘tourism promotion act.’ Also the reason why one keyword ‘acquisition’ have high betweenness centrality may be because legal disputes arise frequently from issues of land acquisition.

Table 14: Network centrality of the whole precedents (TOP20)

Keywords		1	2	3	4	5
1	land	131	0.0064	738.1	0.016	2.831
2	designation	115	0.0058	448.4	0.015	2.465
3	disposition	108	0.0056	370.6	0.014	2.306
4	tourist destination	106	0.0055	293.3	0.014	2.249
5	project operator	104	0.0054	238.3	0.014	2.175
6	tourism promotion act	101	0.0053	244.1	0.014	2.128
7	acquisition	100	0.0053	216.3	0.014	2.078
8	development project	99	0.0053	239.4	0.014	2.077
9	creation project	99	0.0053	225.7	0.014	2.072
10	project operator	96	0.0052	184.6	0.013	2.010
11	creation plan	95	0.0052	212.1	0.013	2.003
12	Enforcement ordinance	94	0.0052	267.4	0.013	2.013
13	urban planning	94	0.0052	179.7	0.013	1.976
14	appropriation	92	0.0051	212.5	0.013	1.979
15	constrain	91	0.0051	192.1	0.013	1.926
16	recreation	84	0.0049	144.8	0.012	1.780
17	architecture	83	0.0049	117.8	0.012	1.738
18	governor	83	0.0049	130.2	0.012	1.761
19	investment	82	0.0049	93.2	0.012	1.704
20	site	82	0.0049	112.6	0.012	1.724

Note: 1=degree centrality, 2= closeness centrality, 3=betweenness centrality, 4=eigenvector centrality, 5=page rank.

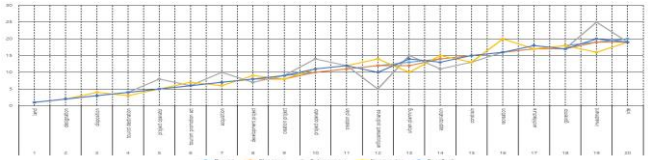


Fig. 15: Comparison of the whole precedents centrality rank in tourism development projects

Next the comparison of centrality among major keywords of whole precedents were depicted in Figure 15. ‘Operator,’ ‘project operator,’ ‘acquisition,’ ‘investment,’ ‘facilities’ show higher degree centrality than betweenness centrality, which implies that they have strong association with other keywords. On the other hand, those keywords like ‘enforcement ordinance,’ ‘public works project’ and ‘residents’ show low relation to other keywords in the whole precedents.

Figure 16 presents the visualization of network analysis results of whole precedents related to tourism development projects. It shows the keywords like ‘land,’ ‘designation,’ ‘disposal,’ and ‘operator’ show higher degree centrality than other keywords. This confirms that diverse litigations arise repetitively over the issues associated with keywords in case of the whole precedents. As seen in higher centrality of ‘appropriation,’ ‘site,’ and ‘compensation’, the legal disputes were highly associated with eminent domain and compensation of land.

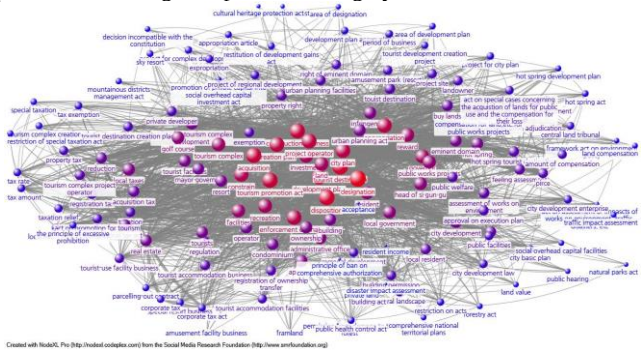


Fig. 16: Network Analysis of the whole precedents

The results of network cluster analysis were depicted in Figure 17 showing that ‘public works project,’ ‘site,’ and ‘public appropriation’ belong to G1 group and G2 group cluster around ‘operator’ ‘appropriation,’ ‘eminent domain,’ and ‘tourism promotion act’ while ‘land,’ ‘real estate,’ and ‘rest’ belong to G3 group.

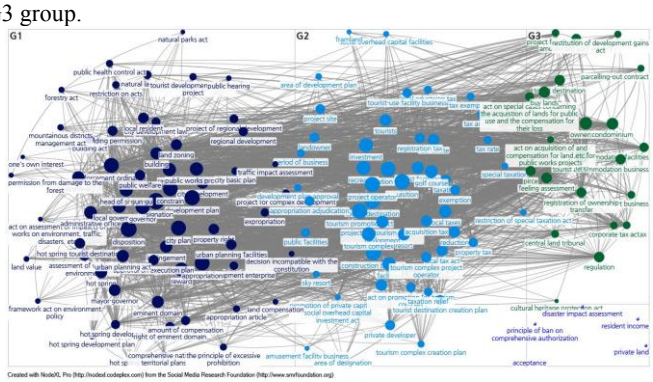


Fig. 17: Clustering analysis of the whole precedents

5. Conclusion

By text network analysis, this study provides the list of meaningful keywords extracted from precedents of court rulings related to tourism development projects and depicts the network among keywords using visualization, which is useful in understanding the policy implications when amending or introducing laws.

We measured the centrality of keywords and classified them into clusters. After finding out major issues of legal disputes, we explained the difference in main keywords of precedents across courts from district to appellation to supreme to constitutional court. Main keywords were selected through triangulation by tourism development experts and then we followed the process of refinement, transcoding and generating matrix to finally measure several indicators of centrality and present the results using visualization algorithm.

Our first ever and comprehensive text network analysis of all Korean court precedents related to tourism development projects for 40 years from 1975 to 2015 indicates and confirms quantitatively that main issues were associated with the fact that tourism development were carried out by government and so most of conflicts were between the public and the private interests.

Firstly, we confirmed through text network analysis of court precedents that a typical litigation was caused by disputes over land in process of tourism development whose project operators and/or the agents in capacity of authorization and permission were mayors or governors.

Secondly, as seen in frequent keywords like ‘appropriation,’ ‘property rights,’ and ‘project operator,’ it was confirmed that litigations over tourism development projects were associated with eminent domain and acquisition, which were closely related to property rights. In this regard, legal disputes against ‘project operator’ arise usually over issues related to ‘tourist destination’ and ‘development project.’

As the constitutional court deals with litigation over possible infringement of constitutional rights through appellation and appeal, ‘appropriation,’ ‘land,’ ‘project operator,’ and property right’ turn out to be keywords. And ‘land,’ ‘tourism promotion act,’ and ‘creation plan’ were major keywords with high centrality for supreme court while ‘land,’ ‘tourist destination,’ ‘acquisition,’ and ‘project operator’ for appellation court and ‘land,’ ‘disposal,’ and ‘operator’ for district court. It indicates that the characteristics of disputing issues are all same or quite similar across courts and root causes persist for a long time. This implies that more concrete definition on land is necessary as the conceptual approach to land under current version of tourism promotion act is abstract and ambiguous.

Thirdly, the result from analysis of appellation and district court precedents does not show any significant difference from those of constitutional and supreme court cases while their keywords were more diverse compared to supreme courts. Especially disputes be-tween businessmen engaging in tourism and tax authorities were notable as there appear keywords such as ‘facility,’ ‘construction,’ as well as ‘taxation,’ ‘acquisition tax,’ and ‘exemption.’ This result also indicates the ambiguity detected in codes of tourism promotion act bring

about different interpretation among parties. Tourism development projects are designed to promote public interest. As they involve the partnership with private business in operating, the partnership is often susceptible to disputes because of the ambiguity of rules and statues. The results of text network analysis support this view.

Fourth, in lower courts' precedents, those keywords like 'exemption,' 'special case,' 'tax rate,' and 'tax amount' were analyzed as one cluster indicating tourism development projects were recognized widely as public benefit. However, the project operators who were accountable were not obliged institutionally in reality.

Some policy implications were in order. First, to reduce time and costs incurred by litigations, active policy should be geared to dispute resolution through arbitration, reconciliation, and mediation. Second, it was also recommended to set up more concrete standards for land appropriation (eminent domain) and establish non-judicial conciliation tribunals for resolving disputes in tourism development projects.

Third, non-judicial or alternative dispute resolution was worthwhile to be sought after as the litigation arises due to conflicts between private property right guaranteed by the constitution and eminent domain entitled by the statute. Procedural legitimacy was also to be supplemented so as to strengthen the public benefit of tourism development project.

Fourth, it was worthwhile to form a consensus over private operators' accountability, social obligation and contribution to local society among residents as tourism development project was recognized both as projects for public interest and welfare on the one hand and a special benefit to operators on the other hand.

Acknowledgement

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References

[1] Derek Hansen, Ben Schneiderman & Marc Smith (2010), *Analyzing social media networks with NodeXL: Insights from a Connected World*. Morgan Kaufmann.

[2] Diesner, Jana & Kathleen M. Carley (2005), *Revealing Social Structure from Texts: Meta-Matrix Text Analysis as a novel method for Network Text Analysis, In V.K. Narayanan and D.J. Armstrong(Eds.) Causal Mapping for Information Systems and Technology Research: Approaches, Advances, and Illustrations*, Chapter4, Harrisburg, PA: Idea Group Publishing.

[3] Elizabeth M. Bonsignore, Cody Dunne, Dana Rotman, Marc Smith, Tony Capone, Derek L. Hansen & Ben Shneiderman (2009), First Steps to Netviz Nirvana: Evaluating Social Network Analysis with NodeXL, *2009 International Conference on Computational Science and Engineering*, Vol. 4, 332-339.

[4] G.Y. Park (2016), *Improvement in tourism development policy through court cases and authoritative interpretations of laws analysis of tourism development project*, Korea Culture & Tourism Institute.

[5] G.Y. Park (2017), An Analysis of Tourism Policy Research Under Different Government Regimes Using Network Text Analysis, *Journal of Tourism Sciences*, Vol. 41, No. 2, 163-183.

[6] G.Y. Park & D.C. Lee (2017), The analysis of legal issue associated with tourism development project using network text analysis - Focusing on Supreme Court`s and High Court's Precedents, *International Journal of Security Technology for Smart Device*, Vol. 4, No. 2, pp.7-14, http://dx.doi.org/10.21742/ijstsd.2017.4.2.02.

[7] H.J. Yoon (2015), Investigating Primary Conflicts of Judicial Precedents on Apartment Defects using Text Mining and Social Network Analysis, Hanyang University, Seoul Korea.

[8] H.W. Park & Loet Leydesdorff (2004), Understanding the KrKwic: A computer program for the analysis of Korean text, *Journal of the Korean Data Analysis Society*, Vol. 6, No. 5, 1377-1387.

[9] I.P. Hong (2007), Judicial Precedent and the Scope of Its Binding Force. *Ilkam Law Review*, Vol. 12, 1-41.

[10] J.S. Lee & S.K. Kang (2010), Collaboration among Stakeholders in Community Tourism Development. *Journal of Tourism Studies*, Vol.22, No.2, 75-97.

[11] K.G. Roh, S.I. Moon & Y.M. Song (2012), The Analysis on the Trend of Court Precedents in Korean Tourist Industry. *Journal of Tourism Studies*, Vol.24, No.4, 25-40.

[12] Korea National Tourism Organization (2017). 2018 Tourism development manual.

[13] M.S Ha, J.M Lee & B.J Lee (2015), A Study on the Trends of Public Personnel Administration Studies Using Text Network Analysis, *Korean Public Personnel Administration Review*, Vol.14, No.1, 185-216.

[14] Marc A. Smith, Ben Schneiderman, Natasa Milic-Frayling, Eduarda Mendes Rodrigues, Vladimir Barash, Cody Dunne, Tony Capone, Adam Perer & Eric Gleave (2009), Analyzing (social media) networks with NodeXL, *Proceedings of the Fourth International Conference on Communities and Technologies*, ACM: 255-264.

[15] Ministry of Culture, Sports and Tourism (MCST, 2017), Annual report on Tourism Trends by 2016.

[16] Ministry of Government Legislation (MGL, 2018). Legal information system, Dec 1.

[17] P.K. Chang (2011), Modification of law system for the grand take-off of Korea tourism. *Journal of Tourism Sciences*. Vol.35, No.4, 357-368.

[18] http://glaw.scourt.go.kr/wsjo, Dec 31 (2015).

[19] http://www.lawnb.com, Dec 31 (2015).

[20] https://www.leydesdorff.net/krkwic, Dec 1 (2018).