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A Study on the Institutional Improvements in the Operation and Management of Underground Shopping Malls

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Abstract

Purpose: The purpose of this study is to analyze the method of calculating the usage fee, rent, and lease rights of public goods necessary for the operation and management of the underground shopping mall, and to suggest systematic improvement points for the operation of the underground shopping mall. **Data and Methodology:** First, ordinances and regulations related to common property were investigated. Second, previous studies were analyzed. A survey was conducted with five questions that conflict with the interests of underground shopping mall merchants among the ordinances and operating systems related to the current underground shopping malls' common property. **Results:** Underpass merchants wanted monthly payment for the use of common property, and merchant organizations wanted to limit the increase rate with the right to use. They asked for the property value due to donation to be excluded from the loan fee, they wanted to revise the Common Property Act on the transfer of lease rights, and they wanted to revise the loan contract renewal period. **Conclusion:** There is a need to improve the laws and systems for underground shopping malls, and it will have to be negotiated according to the opinions of the merchants gathered among them, and it will have to be implemented in stages in the long term.

Keywords: Underground Shopping Mall, Usage Fee, Public Property, Operation, Rent, Institution

JEL Classification Code: C50, D60, I18, K1

1. Introduction

South Korea is a country with a small land area and a high population density in the world. In modern times, as South Korea became to face traffic congestions, the lack of rest and leisure space, and environmental problems such as water and air pollution problems due to rapid urbanization, South Koreans became to pay attention to urban underground facility spaces. In particular, underground shopping malls connected to underground passages not only provided safety and convenience to pedestrians in downtown and alleviated traffic congestions on the ground but also played a major role as shopping and cultural spaces (Choi & Kim, 2011). The history of underground facility spaces began with the construction of underground passages in 1966, and by 2008, 79 underground public passages were opened in 19 cities across the country, including Seoul, Busan, and Daegu (Lee, 2008). Therefore, according to the 'Report of the Result of 2016 Survey of the Actual Conditions of Traditional Market, Shopping Malls, and Store Management', as of 2014, there were 66 underground shopping malls in

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operation in South Korea with 11,849 stores in the underground shopping malls and the number of store tenant merchants accounting for 55.9% of the total seller employment was shown to be 19,974, accounting for a significant portion of local economic scales (Small Enterprise And Market Service, 2016).

However, as the quality of life has gradually improved, recent underground shopping malls have not been able to respond to the increase in home shopping, open markets, and non-store sales, and changes in consumer purchasing behavior and consumption habits using the Internet, despite their potential value as such. The number of customers visiting the underground shopping malls has significantly decreased because underground shopping malls fell behind in the competition with large marts and department stores, which provide wide parking lots, comfortable indoor spaces, and various convenience facilities and cultural spaces, and convenience stores, and some underground shopping malls even show a high vacancy rate. (Kim, 2010; Seo, Yang, Park, & Youn, 2018). This also has negative aspects such as accelerating the city center cavitation phenomenon along with the decline of the original downtown and making related facility management corporations record deficits (Hong & Lim, 2017). Such situations should be improved because there are differences between the ordinances and systems stipulated by the government or local governments and the willingness of underground shopping mall merchants to pay (Kim, 2010; Kim & Kang, 2019; Hwang, 2020). In addition, with regard to the operation and management of underground shopping malls, since underground shopping mall developers and maintenance organizations are different from each other, the management is not unified so that they have difficulties in the maintenance of underground shopping malls (Han, Jang, & Choi, 2017; Shin, 2013)

Therefore, the purpose of this study is to present systematic improvement points for underground shopping mall operation by analyzing the methods of calculation of the usage fee, rent, and lease rights of public properties necessary for the operation and management of the current underground shopping malls, and identifying related problems. This study is expected to be helpful in strengthening the competitiveness and efficient management of underground shopping malls hereafter.

2. Related issues and Literature Review

2.1. Concept of underground shopping malls

2.1.1. Definition and types of underground shopping malls

Underground spaces refer to spatial resources of a certain size that were formed naturally or artificially below the surface of the earth within the range where economic use is possible. When facilities for a certain purpose have been added to this spaces, they are called underground facilities or underground facility spaces (lee & Son, 2016).

The underground facility spaces include spaces called underground shopping malls or underground passage shopping malls.

Doopedia (2020) defined an underground shopping mall as an architectural complex in which stores, offices, and similar facilities are installed in the basement facing a public road and stated that it is distinguished from the basement of a general building depending on the presence or absence of a public road, and that it is a shopping mall for an unspecified many persons installed in an underground passage. In addition, he said that there are many 'underground shopping malls where underground passages, parking lots, and subway entrances are integrated in order to facilitate the traffic of cars and pedestrians at railway stations in large cities, and that there are many shops and restaurants in underground shopping malls.

Jang and Kim (2020) defined underground passage shopping mall as a real estate term to refer to an area in which stores are lined up in contact with an underground passage in the basement of a road, etc. They said that people can enter the underground public passage facility directly or through the underground connection road from a nearby building and that wholesale stores, retail stores, or service stores are opened there. They viewed that the competitiveness of underground passage shopping malls has tended to be weakened because their ability to attract customers is lower due to the smaller volume of traffic of people and lower visibility than shopping malls on the ground and distribution facilities have been competitively opened on the ground recently.

Underground shopping mall can be seen as a common Korean dictionary term, and Underground passage shopping mall is often used as a real estate scientific term. This indicates that the meanings of the names of Underground shopping mall and Underground passage shopping mall are not much different except that they are called differently by academic circle. Therefore, in this study, since previous studies and laws regarding underground mall were referred to, both will be designated as underground shopping malls and discussed hereafter.

Underground shopping malls in South Korea can be divided into three types. The first type was developed from underground passages, the second type is facility spaces created because spaces such as subway ticket offices and ticket gates were necessary to use the subway when the subway was constructed, and the third type was developed in the basements of

large buildings and is currently enlarged because it is connected to pedestrian facilities and used as underground transportation facilities.

2.1.2. Characteristics of underground shopping malls

Underground shopping malls have unique characteristics exclusive to them because they are formed by the construction of underground passages or subways, generally isolated from the ground environment. These characteristics are classified into four characteristics.

First, underground shopping malls have close relationships with underground passages because the right to develop underground shopping malls was given to construction companies in order to cover the cost of developing the underground passages and construction companies developed underground shopping malls and had the right to lease and manage the underground shopping malls for a certain period. When the period of management right expired, the construction companies donated the underground shopping malls to local governments and the local governments entrusted the management to special purpose corporations (facility management corporations) established by the local governments (Hwang, 2020).

Second, underground shopping malls in the early days had been developed centering on accessory functions of underground passages or a function to connect a nearby shopping malls, but recently, they have been developed into complex structures and large scales through connection with subway stations, etc. (Jung, 2021; Ronghua, & Quanyi, 2011).

Third, unlike spontaneous conventional markets, underground shopping malls enable planned composition of business types through planned and artificial development. Therefore, most underground shopping malls have been developed into specialized shopping malls where similar types of business are concentrated (Quan & Youn, 2016).

Fourth, the use of mechanical facilities and efficient management of the foregoing are required to secure comfortable commercial activities due to the isolation from the natural environment (NGUYEN & LE, 2020).

2.2. Study procedures and methods

First, the ordinances and regulations related to public properties such as rent, lease rights, and land ownership rights of the current underground shopping malls promoted by the government and local governments were investigated. Second, previous studies on underground shopping mall operation and system improvement were analyzed. Third, five items with conflicting interests with underground shopping mall merchants (associations) were derived from among the ordinances and operating systems related to public properties such as rents, lease rights, and land ownership of the current underground shopping malls. Fourth, a sample group was formed with the members of the National Underground Shopping Mall Merchants Association, 350 copies of an online questionnaire with five items derived were distributed to members of the National Underground Shopping Mall Merchants Association from November 01 to December 30, 2020, and 328 copies were collected. Fifth, the collected copies of the questionnaire were analyzed to diagnose the ordinances and underground shopping mall operation system related to the current underground shopping mall usage fees, rents, lease rights, land ownership, and donation and derive institutional improvement points.

2.3. Review of previous studies

In a study on 'the actual state of use of urban underground shopping malls and user satisfaction' regarding the activation of lands in the city center conducted with underground shopping malls in Daejeon, Lim, Lee, & Hwang (2006) presented an efficient improvement plan for underground spaces centering on the actual state of use and satisfaction of users.

Lee (2008) conducted questionnaire surveys with users and merchants centering on three underground public passage facilities in Masan-si and Jinju-si, Gyeongsangnam-do in order to derive satisfaction with the facilities and improvement points from the viewpoint of users.

In a 'study on the direction of improvement of the underground shopping mall shopping environment', Seo (2010) presented the problems of the existing shopping mall structure and practical improvement methods for the underground shopping mall in Gangnam Terminal. In particular, through a traffic volume survey, he presented an ideal space relocation method using the depth map and a quantitative space utilization plan.

In an 'analysis of influence factors for the revitalization of Jinju Jungang underground shopping mall', Shin, Kim, Kim, and Seo (2015) analyzed domestic cases and presented the direction of revitalization through a questionnaire survey on users' traffic volume and improvement requirements.

In an ‘empirical analysis of factors affecting underground shopping mall rent, sales, and number of customers’ to activate the underground shopping mall Hong and Im (2017) analyzed statistical data on the rents, sales, and numbers of customers of underground shopping malls throughout the country to present a direction to activate underground shopping malls.

According to the results of examination of previous studies, studies on the actual state of use of underground shopping malls and plans to activate them were mainly conducted to improve the satisfaction of users or merchants, and mainly analyzed factors through questionnaires. On the other hand, studies on the factors affecting the rents, sales, and numbers of customers and studies on the structure of shopping malls presented quantitative improvement directions through investigations of actual cases using programs.

Therefore, this study will analyze the problems of the current institutional laws and regulations necessary for the operation of underground shopping malls and identify actual cases of institutional problems claimed by actual experts and underground shopping mall merchants in order to present a plan for efficient operation of underground shopping malls.

3. Current laws and systems for operation

3.1. Operation and management systems for public properties of underground shopping malls.

Public property is a term used to collectively call properties owned or under construction by local governments (Son, La, & Park, 2020; Park, Go, & Park, 1996).

According to 『Article 10 of the Public Property and Commodity Management Act』, with respect to public properties, the head of a local government is responsible for management and protection, and must establish a plan related to the acquisition, management, and disposition and obtain a resolution from the local council every year (Ministry of Public Administration and Security, 2022a). Jeon and Lee (2017) viewed that public properties should be managed because they are one of the important sources of revenue for local governments and they can be used to provide public services to residents while responding to environmental changes hereafter. In addition, when the Korea Development Institute held a local regulatory innovation forum on June 13, 2019, local governments, consignment organizations, and subleasing institutions (private institutions) argued that the current public property usage fee/rental fee calculation method and collection method should be improved because they do not properly reflect the reality (Jeon & Lee, 2017).

In addition, although underground shopping malls are installed and operated by local governments, etc. in some cases, they are installed and operated by private persons in other cases. In cases where underground passages were installed by private persons, the private persons have installed and managed underground shopping malls including underground malls from the past because they should be able to recover their investment costs. In such cases, when private persons installed underground shopping malls and donated the shopping malls to local governments, the private persons received permission to use the shopping malls free of charge to make profits in exchange (Hwang, 2020). Meanwhile, it has been argued that ‘Article 140 of the Local Government Act (Ministry of Public Administration and Security, 2022b)’, which is the basis for the imposition and collection of usage fees, charges, and contributions, which account for a certain portion of the non-tax revenues of local governments, has caused confusion because it has many uncertain details in interpretation (Lee, 2013).

3.2. Limitations of development of underground shopping malls according to the current legal system

Underground public passage facilities, which can be said to be a representative example of domestic underground space development, are stipulated as one of the ‘infrastructures’ set forth in the ‘National Land Planning and Utilization Act’ and the installation standards are stipulated to follow the ‘Rules on the Determining Structure and Installation Standards for Underground Public Passage Facilities’, which are additional rules of the ‘Rules on the Determining Structure and Installation Standards for Urban Planning Facilities’ (Ministry of Land, Infrastructure and Transport, 2012).

Meanwhile, among infrastructure facilities, those facilities that are determined by the urban management plan are called urban planning facilities. Infrastructure includes transportation facilities such as roads, railways, ports, airports and parking lots, and spatial facilities such as plazas, parks, and green areas. Supply facilities are also included. In addition, infrastructure includes public cultural and sports facilities such as schools, playgrounds, public buildings, cultural facilities, and sports facilities, and environmental basic facilities such as rivers, reservoirs, fire prevention facilities, crematoriums, cemeteries, and crypts. there is.

Among the transportation facilities out of the infrastructures, roads are further subdivided into general roads, automobile-only roads, pedestrian-only roads, bicycle-only roads, overpasses, and underground roads. According to the current law,

underground public passage facilities are stipulated as an infrastructure called an underground roads so that there is no legal and institutional basis for the planned development of underground space development districts considering urban structures and urban spaces at the level of the entire city (Lee, 2019). In addition, when an underground space is developed, it is a semi-permanent facility, which must be developed and constructed according to a plan at the city level. Reckless development under roads should be prevented and the underground space should be linked with the ground so that a win-win relationship is established between the underground space and the ground to form an urban space, but the reality is not the case (Xie, Zhang, Chen, Peng, Liao, & Zhu, 2021).

3.3. Laws and regulations on land ownership, land use and compensation

3.3.1. Land ownership/use

The existing methods to use underground spaces are divided into cases where the title is acquired through voluntary negotiation with the landowner, and cases where the title cannot be acquired.

The first method, acquisition of the title include lease under the Civil Act, the creation of superficies or easements, the creation of partitioned superficies for the below-ground part, the creation of public license under the ‘Act on Special Cases Concerning the Acquisition of Public Land and Compensation for Losses(National Law Information Center, 2022)’’, the creation of the right to use miscellaneous properties under the ‘State Property Act(Ministry of Strategy and Finance, 2020)’ or the ‘Local Finance Act(Ministry of Public Administration and Security, 2006)’ with a loan contract, and other method of use by agreement based on other laws, etc.

The second method to use underground space in cases where the title cannot be acquired include the creation of a public license by a decision on use under the ‘Land Expropriation Act(Ministry of Land, Infrastructure and Transport, 1963)’’, the method of use with permission from the administrative agency under the ‘Urban Gas Business Act(Ministry of Land, Infrastructure and Transport, 1963)’’, and methods of use based on public property use permission or occupancy permit under the ‘State Property Act’, ‘Local Finance Act’, and ‘Road Act(National Law Information Center, 2007)’ etc.

Although such laws currently exist, most of the underground space developments are carried out through the use of road occupancy permits, which is a method of using the underground spaces of national lands and public lands such as roads.

3.3.2. Compensation

Currently, the most representative of the compensation rules for underground use in the case of underground space development is the regulation of the ‘Urban Railroad Act(Ministry of Land, Infrastructure and Transport, 2012)’ and ‘Ordinances on Compensation Standards for Use of Underground Parts of Lands’ were established and are used by large unit local government according to the foregoing regulation. The ordinances set the limit depth by region and introduce the concept of the rate of inhibition of stereoscopic use to stipulate the scope of compensation.

3.3.3. Regarding the installation of underground facilities

The installation of underground facilities is subject to separate regulations and rules in each individual law depending on the type and use of the underground facility.

Underground buildings, underground roads, underground shopping malls, underground passages, underground plazas, etc. are stipulated to be installable both underground and on the ground of urban planning facilities under the ‘Building Act(Ministry of Land, Infrastructure and Transport, 2021a)’ and the ‘National Land Planning and Utilization Act(Ministry of Land, Infrastructure and Transport, 2021b)’’, and the facility determination and installation standards for underground shopping malls under roads and plazas are stipulated in the ‘Rules’. Even in cases where underground public passages, underground plazas, and underground shopping malls in national and public lands, excessive regulation of the ‘rules’ acts as a factor hindering the development of underground spaces (Ryu, Yum, & Gal, 2018).

4. Institutional problems of the operation of underground shopping malls

Recently, a domestic institution announced the problems of the system of operation of underground shopping malls thought by merchants. First of all, Gwangbok-dong Underground Shopping Mall Merchants Association (2020) stated that in the case of Daejeon Jungang-ro underground shopping mall, self-reliance should be secured and sustainable growth should be promoted through the shared growth of not only the shopping malls in the underground passage but also the surrounding

commercial areas and conceived that commercial district activity should be enhanced, sustainable environments and self-reliance and continuous competitiveness of small businesses should be secured.

Korea Distribution Science Research Institute (2020) made a request regarding the inappropriateness of the management fee payment with regard to the institutional problems of the Busan city underground shopping mall. To concretely examine, Korea Distribution Science Research Institute presented solutions to the problem of reduction of the burden of expenses and cleaning service charges, the problem of the payment of repair costs (minor repairs), the problem of arrangement of the standard for rental fees, the renewal of the lease contract period, the problem of succession to the shopping mall contract, the remedy for stores occupied without permission.

The institutional problems of Busan's Gwangbok-dong underground shopping mall presented by Gwangbok-dong Underground Shopping Mall Merchants Association (2021) were mainly problems for activation and countermeasures were presented. First, the inappropriateness of the management fee payment was presented. Among them, with regard to the present situation of the rent and management fee, a problem that the standard for imposition of the rent and management fee include toilets and rest facilities and this is inappropriate because toilets and rest facilities are public areas was raised. As a solution to the foregoing, the exclusion of the area of toilets and rest facilities from the rental calculation standard was presented. In addition, as civil complaints that require ordinance revision, issues such as renewal of lease contracts, succession of shopping mall contracts, and unauthorized occupation of shopping malls were raised. To review the revision of the ordinance on the lease contract period, according to ‘Special Act on the Development of Traditional Markets and Shopping Districts Article 17-2, Busan City Ordinance Article 8-2(Busan City, 2019)’, currently, lease contracts can be renewed only once per five years for a period within 10 years. However, the Gwangbok-dong Underground Mall Merchants Association requested renewal twice for 10 years, once every 5 years specified as the upper limit in the Special Act on the Development of Traditional Markets and Shopping Districts. In addition, in the case of Nampo and Gwangbok, improvement plans were presented for 100 stores that pay a fine 120% as a remedy or treatment method. The contents are summarized in <Table 1>.

Table 1: The problems of the operating system that the underground shopping mall merchants think

Research Institute	Institutional Problems In Operation And Management
Daejeon Sejong Institute (2020)	<ul style="list-style-type: none"> -Mutual growth of surrounding commercial areas - Enhancing commercial area activity and sustainable management -Securing small business self-reliance academic report and continuous competitiveness -Strengthen competitiveness in existing positions
Distribution Science Research Center (2020)	<ul style="list-style-type: none"> - Problem of reducing the burden of service cost for expenses and environmental maintenance -Repair cost (minor repair) burden problem - Rent standard arrangement -Renewal of rental contract period -Transfer issues as in the terms and conditions of the contract -Measures for remedies for unauthorized stores -Renewal of rental contract period
Gwangbok-dong Underground Mall Merchants Association (2021)	<ul style="list-style-type: none"> - Rent (management fee) standard change: Restrooms and rest facilities are public areas, so it is inappropriate to charge the rent. -Change of rental contract renewal period: Renewal required for up to 10 years (5 years, 2 times) specified as the upper limit in the Traditional Market Act -Shopping mall contract succession problem (transfer/acquisition) -Problem of unauthorized occupation of shopping malls - Improvement of remedies or fines

4.1. Time to pay the public property usage fee

When underground shopping mall merchants throughout the country were asked about the appropriate time to pay the public property usage fee, they answered that the monthly payment was 64%, the quarterly payment 14%, the deferred payment 11%, the prepayment 6%, and half-annual payment 5%.

1. According to the current < Public Property and Commodity Management Act>, the full amount of public property (public market, stores in underground shopping malls) usage fees must be paid in advance before use, imposing a burden on merchants. Which of the following items

do you think is the most desirable time to pay the usage fees?

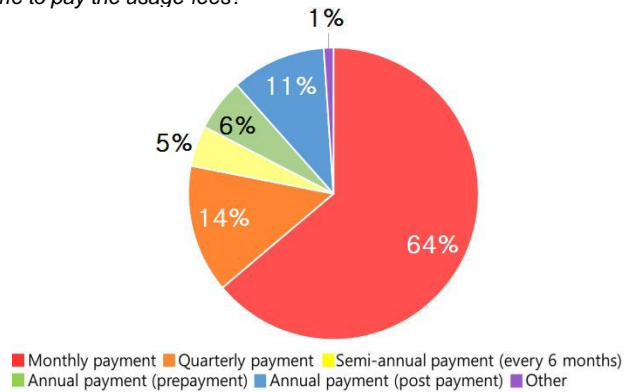


Figure 1: Time to pay the public property usage fee

4.2. The right to use public property and the rate of increase

Underground shopping mall merchants throughout the country answered 93% in favor or 6% against granting bid or private contract priority and setting an upper limit of the rate of increase in usage fees.

2. An amendment of the 'Public Property and Commodity Management Act' is being reviewed to give priority to merchant organizations in traditional markets and shopping malls that are currently using the public property when bidding or private contracts and determine the limit of the rate of increases in usage fees at the time of bidding or private contracts in order to limit the burden due to increases in the usage fees through highest piece bidding?

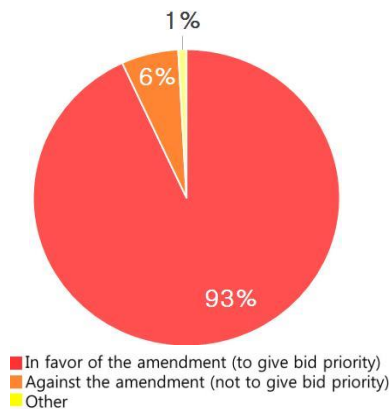


Figure 2: Bid priority is granted to the Merchants Association using public property

4.3. Public Property usage fee and loan fee

Underground shopping mall merchants throughout the country answered 82% in favor or 15% against revising the rules to exclude the increase in the property value due to donation when calculating the usage fee or loan fee for public property.

3. An amendment of the 'Public Property and Commodity Management Act' is being reviewed to exclude the increase in property value due to the merchant's contribution (donation) when calculating the usage fee or loan fee for public property. What is your opinion?

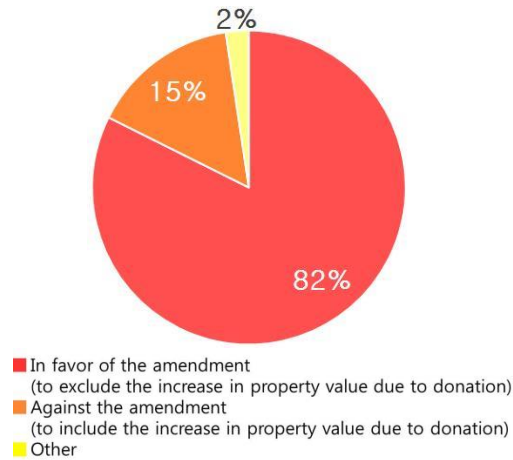


Figure 3: Whether or not the increase in property value due to donation is excluded when calculating shared property usage fee and loan fee

4.4. Public Property Act on Transfer of Lease Rights

Underground shopping mall merchants throughout the country answered 96% in favor or 3% against revising the Public Property Act to allow merchants to transfer leasehold rights thereby giving limited opportunities to recover the premium.

4. An amendment of the 'Public Property and Commodity Management Act' is being reviewed to limitedly allow the transfer of the rental rights of merchants in traditional markets and shopping malls, thereby limitedly guaranteeing opportunities to recover the premium. What is your opinion?

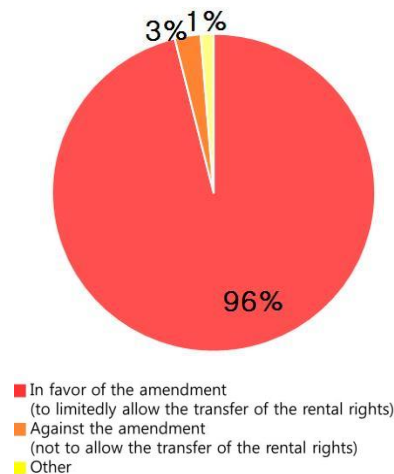


Figure 4: The amendment of the Public Property Act allows merchants to transfer their leasehold rights.

4.5. Public Property property contract subject and renewal period

Underground shopping mall merchants throughout the country answered 97% in favor or 2% against the plan to allow the merchants association (corporation) organization to firsthand sign use, profit making, and loan contracts and extend the renewal period from five years to 10 years.

5. An amendment of the 'Public Property and Commodity Management Act' is being reviewed to allow the corporation under the 'Commercial Act' consisting of merchants to firsthand sign use, profit making, and loan contracts with local governments and extend the renewal period from the current five years to 10 years. What is your opinion?

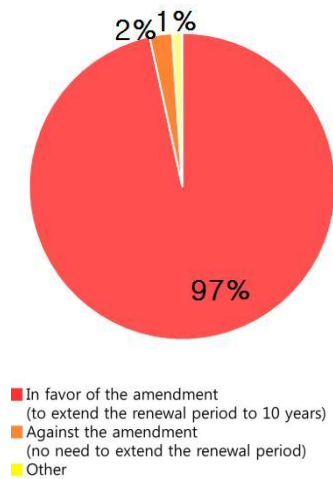


Figure 5: A plan to require merchants' association to sign a loan contract and extend the renewal period to 10 years.

5. Result

This study was intended to mainly examine the method of calculation of the usage fee and loan fee for the public properties necessary for the operation and management of the current underground shopping malls and present institutional directions that can be helpful in activating underground shopping malls hereafter.

First, in order to identify institutional improvement points in shopping mall operation, the ordinances and operating systems related to public properties such as rents, lease rights, and land ownership rights of underground shopping malls currently promoted by the government and local governments were investigated. Thereafter, previous studies related to the activation of underground shopping malls were analyzed and problems were derived. Among the current ordinances and operating systems, five ordinances and systems with interests conflicting with underground shopping mall merchants (associations) could be organized. Those ordinances and systems were related with the payment period of the usage fees for the public properties of underground shopping malls, bid priority, increases in property value due to donation when calculating the usage fees and the loan fees, the transfer of the merchant's lease rights, the conclusion of loan contracts, and the renewal period with differences in opinions between the current laws and regulations and underground shopping mall merchants (associations).

In the case of payment of public property usage fees, the current laws and regulations "within 60 days from the date of obtaining permission for use or profit, but pay the full amount in advance before use," but merchants expressed their opinion that "the usage fee can be paid monthly." Regarding the granting of priority in bidding to the Merchants Association using public property, the current laws and regulations suggest general competitive bidding, and only in exceptional cases, competition for nomination and private contracts can be concluded. However, merchants expressed their opinions that "priority rights are given to traditional markets and shopping mall merchants' organizations when bidding or signing private contracts, and the limit of the rate of increase in usage fees is determined when bidding or signing private contracts." Regarding the exclusion of property value increases due to donations when calculating public property usage fees and loans, the current laws and regulations said, "Exceptionally, installment payments can be made within four times a year," or merchants said, "Depositing deposits equivalent to 50/100 of annual usage fees or loan premiums can submit performance guarantee insurance." In allowing merchants to transfer their leaseholds due to the revision of the Public Property Act, the current laws and regulations said, "If necessary, the status may be transferred to another person with the approval of the head of a local government or the person entrusted with management."

In the current laws and regulations, "the head of a local government" in the plan for the period of use, loan contract conclusion, and renewal of the merchant association organization.

The period of permission for use and profit of administrative property is

"I'll do it within 5 years". However, merchants expressed their opinions, saying, "Delegation to a merchant association organization (corporate). The lease period of the Commercial Building Lease Protection Act is extended according to the 10-year regulation.

The summary of the contents is as shown in <Table 2>.

Table 2: Current laws and differences of opinion with underground shopping mall merchants

Inventory	Current laws and operating systems.	Merchants' opinions.
Time to pay for public property and usage fees.	It shall be within 60 days from the date of obtaining permission for use or profit, but the full amount shall be paid in advance before use	Revised so that monthly usage fees can be paid
The right to use public property and the rate of increase	General competitive bidding is proposed, and nomination competition and private contracts can be concluded only in exceptional cases.	Priority is given to traditional markets and shopping mall merchants' organizations when bidding or signing a private contract, and the limit of the rate of increase in usage fees is set when bidding or signing a private contract
Method of paying the usage fee and loan fee of public property	In exceptional cases, installment payments can be made within the range of 4 times a year.	It is possible to deposit a deposit equivalent to 50/100 of the annual usage fee or loan fee, or to submit a performance guarantee insurance with a local government as the insured.
The law on the transfer of leasehold rights.	No transfer of leaseholds.	If necessary, the status may be transferred to another person with the approval of the head of a local government or the person entrusted with management.
The management entity and renewal period of the public property	The head of a local government. The period of permission for use and profit of administrative property is Within 5 years.	Delegation to a merchant association organization (corporate). The lease period of the Commercial Building Lease Protection Act is extended in accordance with the 10-year regulations

6. Discussion

According to Son, La, & Park (2020), for the development of and countermeasures for domestic underground spaces, the current laws and systems related to public property have some problems and improvements are necessary. Since there is no certain and direct laws and regulations yet, the current laws and regulations should be revised by collecting the opinions of the relevant person, that is, underground shopping mall merchants. In addition, in order to prevent the decline of underground shopping malls, an appropriate legal system should be prepared as the users who are currently operating underground shopping malls are users.

For commercial districts to be activated based on the stable development of the underground shopping malls, the right of merchants to properly operate business and the fundamental right to operate of the merchants' association (corporation) organization should be guaranteed through partial amendments to the 'Public Property and Commodity Management Act', which conflicts with the 'Commercial Building Lease Protection Act'.

In detail, the foregoing act should be amended to require monthly payments of public property usage fees, grant bid priority to merchant organizations, enact an upper limit of the rate of increase in usage fees, exclude the increase in property value due to merchants' donations when calculating public property usage fees, allow merchants to transfer leasehold rights limitedly, allow merchant organizations to firsthand conclude public property use contracts, and extend the renewal period from the current five years to 10 years.

In order for the underground resources installed under the roads of major cities across the country to be utilized under the best conditions to solve national and urban problems, a meticulous and future-oriented legal system must first be prepared (Hunt, 2014). In addition, harmonization between the public good and the private sector will require a reasonable search for ways to solve various problems that have occurred in the existing underground spaces. A developmental community should be formed through transparency and fairness in development, management, and activation, reasonable distribution of accrued profits, reasonable guarantee of ownership, and mutual organic networking.

Of course, the foregoing should be promoted step by step with a long-term project, and many discussions should be carried out on the plans for connection with the ground by local government.

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