



저작자표시-비영리-변경금지 2.0 대한민국

이용자는 아래의 조건을 따르는 경우에 한하여 자유롭게

- 이 저작물을 복제, 배포, 전송, 전시, 공연 및 방송할 수 있습니다.

다음과 같은 조건을 따라야 합니다:



저작자표시. 귀하는 원저작자를 표시하여야 합니다.



비영리. 귀하는 이 저작물을 영리 목적으로 이용할 수 없습니다.



변경금지. 귀하는 이 저작물을 개작, 변형 또는 가공할 수 없습니다.

- 귀하는, 이 저작물의 재이용이나 배포의 경우, 이 저작물에 적용된 이용허락조건을 명확하게 나타내어야 합니다.
- 저작권자로부터 별도의 허가를 받으면 이러한 조건들은 적용되지 않습니다.

저작권법에 따른 이용자의 권리는 위의 내용에 의하여 영향을 받지 않습니다.

이것은 [이용허락규약\(Legal Code\)](#)을 이해하기 쉽게 요약한 것입니다.

[Disclaimer](#)

경영학 석사학위논문

Network Effect on Creativity and Organization Formation:

An Empirical Examination of Korean Popular Musician
Network before and after the Drug Investigation in 1975

2016년 2월

서울대학교 대학원

경영학과 경영학전공

전천후

Abstract

Network Effect on Creativity and Organization Formation:

**An Empirical Examination of Korean Popular Musician
Network before and after the Drug Investigation in 1975**

Chunhu Jeon

Graduate School of Business

Major: Business Administration

Seoul National University

Researches on collaborative relationship and creativity suggest that certain structural position is beneficial for creativity based on the idea of knowledge transfer and combination via collaborative ties. However, most of studies pay less attention to conditions that can hinder this positional benefit. Also, some network conditions can shape network dynamics. The purpose of this paper is to examine whether existence of high status actors affect topological benefit and network dynamics. This study examine affiliation network of Korean popular music band and solo artists, especially before and after the momentary drug investigation of popular music artists (The Ninth Emergency Act in 1975) in order to test whether sudden elimination of high status actors in the network can enables network effect of knowledge transfer and combination on creativity. The analysis pop music band network and musician network suggests that positional benefit does not function under the existence of strong high status actors, whereas it does after their elimination. Also, this study shows that collaboration between distant actors in terms of structural characteristics and prior experience were more likely to form a

collaborative relationship under the presence of high status actors. This study highlights importance of historical condition of interorganizational structure in studying collaboration and its effect.

Keywords: Interorganizational network, social network, collaboration, creativity, Korean pop music

Student Number: 2014-20414

TABLE OF CONTENTS

Introduction	1
Theory	4
Motivations of Collaborative Tie Formation.....	4
Network Structure as Constraint Condition of Network Dynamics and Process..	7
Popular Musician Network and Coercive Dissolution in South Korea.....	9
Models and Method.....	17
Data	17
Study 1: Network Effect on Organizational Creativity	18
Study 2: Network Effect on Collaborative Dyadic Tie Formation.....	21
Results	23
Discussion and Conclusion	27
References.....	29

LIST OF TABLES

Table 1. Different Motivations of Collaborative Network Dynamics and Processes	7
Table 2. Summary Statistics of Musicians from 1971 to 1975.....	12
Table 3. Summary Statistics and Bivariate Correlation for Study 1.....	20
Table 4. Summary Statistics and Bivariate Correlation for Study 2.....	23
Table 5. Zero Inflated Negative Binomial Estimates of Influence on Band Creativity	25
Table 6. Logistic Estimates of Influence on Musician Dyad Formation.....	27

LIST OF FIGURES

Figure 1. Collaboration Network of Korean Pop Musician from 1960 to 1975.....	11
Figure 2. Average Centrality and Prior Experience of Active Musicians.....	13

Introduction

Creativity is often regarded as a feature of outcomes or artifacts made by individual talent, but in many cases, creative output is socially created by collaborative efforts of multiple individuals or multiple organizations (Ahuja, 2000a; Perry-Smith & Shalley, 2003). Analyzing diverse level of collaborative units, including teams in an organization, project organizations made by different professional talents, and inter-organizational relationships, recent researches find the benefit of topological positions in collaborative network and examine dynamic tendencies in collaborative tie formation (Fleming, King III, & Juda, 2007; Guimera, Uzzi, Spiro, & Amaral, 2005; Vissa, 2011). Studies focusing on topological analysis in given networks posit the benefit or liability from certain types of structural position with the processes that can be inherent in the position (Baum, Calabrese, & Silverman, 2000; Pahnke, McDonald, Wang, & Hallen, 2014; Schilling & Phelps, 2007; Zaheer & Bell, 2005). The mechanisms common in these studies are transfer and combination of resource and knowledge: individuals and organizations connected can be benefited from quantity and diversity of resource and knowledge, and they can be suffered from leakage of resource and knowledge. This view assumes that knowledge of alter comes in and knowledge of ego goes out via direct and indirect ties, and argues its consequential benefits or loss (Hernandez, Sanders, & Tuschke, 2014; Reagans & McEvily, 2003).

On the other hand, researchers study different collaborative dynamics (i.e. formation and dissolution of ties in collaborative network) for more comprehensive understanding of these complex system (Guimera et al., 2005; Polidoro, Ahuja, & Mitchell, 2011; Powell, White, Koput, & Owen-Smith, 2005). First, studies reveal that structurally close or socially similar actors are more likely to form a new relationships by mechanisms of referral, homophily, and/or trust, and less likely to

dissolve their ties by mechanisms of trust, mutual monitoring, or power balance (Mitsuhashi & Greve, 2009; Polidoro et al., 2011; Vissa, 2011). Second, studies also suggest that forming a bridging ties are caused by intentions of acquiring technically complementary resources (Amburgey, Al-Laham, Tzabbar, & Aharonson, 2008; Bae, Wezel, & Koo, 2011). Alters who are cohesively connected are likely to possess similar knowledge and resources, thus crossing into other clusters may allow new knowledge and resources. Third, tie formation with new entrants in the field occurs intentionally. This kind of dynamics is beneficial when incumbent actors pursue acquisition of new ideas or intend to pass down knowledge for persistent generation of creative outcomes in their organization.

While the aforementioned descriptions of collaborative efforts for creativity suggest both descriptive and normative implications, however, literature studying this pays less attention to mechanisms of this social relationship so that it cannot or does not provide richer description of phenomena inside collaborative networks. Also, many analyses do not consider effect of initial condition or characteristics sufficiently. Many studies examine cross sectional network data, thus they hardly capture contingencies in different periods. One thing that those studies can miss may be the possibility that actors in the field may behave differently depending on the given structure. Observing the given structure of their organizational field, actors can have different motivations (or intentions) and it can lead to different dynamics and process in relational interaction. Especially, other possible mechanisms that may allow less creative production can hinder positional benefit from knowledge transfer. For instance, an ego can approaches an alter in order to free-ride the alter's individual capability or to absorb the alter's knowledge unilaterally, either of which is opportunistic (Arend & Seale, 2005; Podolny, 2001). If such cases are prevalent in a field, positional effect on creativity would not be found significantly. This kind of opportunity-seeking motivation can drive less

capable actors to get links to distinguished actors (i.e. most of tie formations occurs around outperforming or high status actors). If we assume that homophilous dynamics that is driven by factors other than creative capability (e.g. race, or religion) is not dominant, the consequential topology of the network is unequivocal: high centrality for highly capable actors leads to small-world network. Moreover, another problem resides in study of collaborative network driven by opportunity-seeking dynamics. If such network is given in a field, some mechanisms may not significantly function in the field. This conditional contingency can hinder dynamics and processes in the network.

The purpose of this paper is to build on current literature on collaboration for creativity. More specifically, the present paper attempts i) to analytically discern conditions that allow or disallow network effect on creativity, and ii) to depict dynamic change in organization formation in more inclusive sense. To do this, this paper analyzes the population of Korean popular musicians consisting of bands (i.e. collaborative teams which make music almost self-sufficiently) and solo musicians (i.e. singers who make their music alone or depend on temporary contractual relationships when making music) from 1965 to 1985. This study sees the musician network as an affiliation network generated by band formation (Breiger, 1974). One advantage to examine this field is related to the fact that there was coercive dissolution of the network due to the momentary drug investigation by Korean government in 1975. This investigation led to prohibition of any artistic activity of drug abusing musicians who mostly big names in the field (Shin, 2005b).

The analysis here confirms that density and structural hole in the network are positively related to creativity only after the coercive network dissolution. As part of its reason, the analysis supports that collaboration ties are more likely to be formed especially between two musicians who have distant level of network characteristics and distant level of prior experiences, which can be regarded as a

result of opportunity-seeking behavior of exploiting counterparty's capability. Therefore, networks dominated by high-status actors can discourage structural effect on creativity.

This paper contributes to studies of collaborative relationship by partly carving out network effect in collaborative relationships. It confirms that there is exchange of knowledge and skill via links in the collaborative network. Also, this paper makes a contribution to current literature by showing network evolution in more sociological lens. This enables us to predict long-term behavior of complex system of collaborative network. These implications are relevant to scholars who study collaboration relationships as well as practitioners who manage collaboration of their organizational members.

Theory

Motivations of Collaborative Tie Formation

Ties in different types of social network have different meaning and implications, and clarifying the nature of the social network in question is critical to understand the social structure. For example, in networks of transactional relationship (i.e. seller-buyer), different types of processes inherent in ties in the network are important to explain its phenomena (Uzzi, 1996, 1997). In board interlock network, cooperative or diffusive mechanisms such as advisory or practice diffusion are likely to occur (Davis & Greve, 1997). Collaborative networks pursuing creative outcomes also have distinctive natures and different processes in this kind of network occur solely or simultaneously.

For studies explaining creative performance, ties in social networks normally assumed to be involved with knowledge transfer and combination

(Fleming et al., 2007; Schilling & Phelps, 2007). The basic assumptions underlying this line of study are i) that each organization or individual has idiosyncratic knowledge, and ii) that members in a cohesive group have, in some extent, similar knowledge set. Based on these assumptions, different types of collaborative networks imply different topological structure of the network and different patterns of mechanisms of the network.

First, when a creative outcome requires different types of specialized knowledge, different types of knowledge holders should cooperate for their production. One example can be a project team of Broadway musical consisting of a composer, a librettist, a choreographer, and others (Faulkner, 1983; Uzzi & Spiro, 2005). In this case, each category of specialized knowledge holder is hardly substitutable by other types of knowledge holders, so they must share their knowledge. In this kind of collaborative networks, individuals doing same job rarely co-work together, but different job holders form a collaboration team. Thus, the dynamic process in this kind of network is that part of dyadic relationships in previous teams remain subsequent team(s), and new relationships are more likely to be formed with indirectly connected alters by ties transitivity mechanism (e.g. referral or in-group favoritism). Its resultant topology of the network becomes clusters formed by those repeated dyadic relationships (Guimera et al., 2005; Uzzi & Spiro, 2005).

Another type of collaborative ties exist when combination of diverse perspectives and ideas can lead to better performance (Fleming et al., 2007). This can be distinguished from the first type of collaborative network by the fact that different ideas are not necessary to produce outcome but beneficial for additional quality of the outcome. An explicit example can be many research collaborations between academic scholars. These research outcomes can be done solely by a researcher, but co-working with others can lead to more comprehensive study.

Assuming that individuals gather by their field of work, network clusters in this type are likely to be formed by their field. The evolutionary mechanisms in this type of collaborative network can differ by individuals' several intentions. Some individuals may seek to exploit disciplined other's knowledge in the same field, which allows more in-depth creative outcomes. In this case, the mechanism can be captured by the existence of hubs with high degree or the dense network. On top of that, individuals attempt to absorb new knowledge base. In the latter case, the mechanism can be described as certain portion of newcomer ties (Guimera et al., 2005). In other case, some individual pursue to combine their knowledge base with different ones in order to produce unique outcomes. In this case, the mechanism can be represented by bridging ties (Granovetter, 1973). Thus, studies on this perspective examine effects of cohesive connections, bridging connection between different groups, and reachability to other individuals or organizations on creative performance, and their findings are mixed.

Another perspective explaining inter-organizational relationships is opportunity-seeking (Podolny, 2001; Williamson, 1985). More specifically, individuals and organizations frequently attempt to ask prominent ones for collaboration, and major motivation of this is, of course, that they expect that they can be benefited from their potential counterpart's capability or status in terms of inter-organizational learning or mere free-riding. In this kind of collaboration, mutual knowledge sharing or combination is hardly expected. Rather, one-sided learning or mere free-riding is more likely to happen between tied actors.

However, value of connection to high status actor(s) may not be significant (Walter, Levin, & Murnighan, 2015). On the one hand, high status actors can be reluctant to share their valuable and extensive knowledge with others. In addition, high status actors may not pay enough attention to current collaboration since they have other tasks for On the other hand, low status actors

may not learn from high status actors because of their lack of basic knowledge (Cohen & Levinthal, 1990).

Table 1 summarizes the three sets of motivation-dynamics-process. The big challenge regarding in these different motivations and processes of collaborative network is that it is hard to distinguish knowledge search motivation and opportunity seeking motivation. Inter-organizational relationships in most archival data are voluntarily established, not randomly given, thus ties in these network are formed mixed motivations and diverse mechanisms can occur through the ties. For example, Ahuja (2000b) describe formation mechanism of collaborative ties in the patent network as *inducement* and *opportunity* factors. Also, it is almost impossible to control given network condition except for experimental settings.

Table 1. Different Motivations of Collaborative Network Dynamics and Processes

Motivation	Network Dynamics	Process in Collaborative Tie
Local Search	Ties with Knowledgeable Organization in Same Cluster	Knowledge Sharing
Distant Search	Tie with Organization in Other Clusters	Knowledge Combination
Opportunity Seeking	Tie with Capable or High Status Organizations	Free-riding or Unilateral Learning

Network Structure as Constraint Condition of Network Dynamics and Process

In simple or linear system, initial condition is mostly not any problem for its result. Such systems go with its simple equations. However, complex and non-linear systems may be very sensitive to the initial conditions, so that identical set of possible dynamics can lead to totally different results (Ruelle, 1979). Some

mechanisms and processes may not significantly work in certain settings, whereas they work in other settings.

Social systems are also contingent on different conditional factors. When it comes to collaborative network, different topology that is given can encourage some mechanisms while discourage others. For example, highly embedded actors in their cohesive network may not seek to behave opportunistically with their close alters (Uzzi, 1996). Also, new entrants in this network also follow this norm. By this condition shaped historically, subsequent dynamics and processes would be constrained in some extent.

This study focuses on the condition of *status and capability discrepancy* between those who have capability or status and those who have lower capability and status. This discrepancy can influence subsequent dynamics and processes. In a network where ties are dominated by few actors, incumbent actors and new entrants who consider new tie formation may pay most attention to these central actors who are more visible. This may be because actors in the field acknowledge opportunistic motivation of prior tie formation, thus imitate previous patterns. Specifically, they think the rule of the game in the field is connection to capable actors (i.e. highly connected actors). In other cases, the focused interest in a few actors may result from actors' limited cognitive ability. High discrepancy in terms of saliency between more capable actors and less capable actors can make actors regard only more capable actors as alternatives of collaboration.

Processes in such network would also be different. In collaborative relationships formed by opportunistic intention, mutual exchange of knowledge is less likely to happen. This is because i) less capable actor has little knowledge to share, ii) they are less likely to have ability of knowledge diffusion, and iii) those opportunity seekers may have less incentive to channel acquired knowledge. In this regard, history of a collaborative network is influential in making boundary for

subsequent behaviors of actors in the field. Creativity is also dependent on this historical tendency.

Popular Musician Network and Coercive Dissolution in South Korea

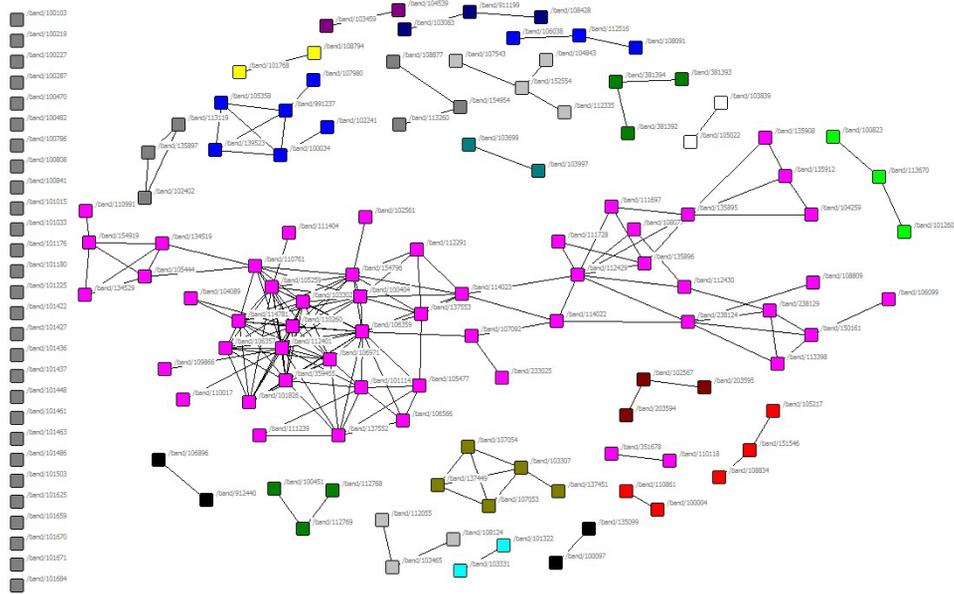
Survival of musicians in popular music ('pop music') field is determined by their explorative and exploitative activities and its performance. The explorative activities include making new songs and releasing new albums, and its extreme case can be development of new genre like development of Avant-Garde Jazz by Ornette Coleman and Eric Dolphy or that of Jazz-Rock by Larry Coryell and Gary Burton (Gridley, 1999). On the other hand, exploitative activities can include having concerts and showing up in entertaining shows. Like new product by manufacturing firms, explorative outcomes of musicians are also uncertain about future performance in terms of financial income or critical evaluation, and explorative activities in the music field are close to investments for future performance, not immediate economic benefit. Especially when regulative environment does not support fair economic benefit from songs and recordings (i.e. copyright), economic benefit from musicians' explorative activities was hardly expected (Shin, 2005a).

In this field, musicians co-work with other musicians for several reasons as enumerated above, and different modes of co-working exist. For one thing, musicians have different skill sets and knowledge such as playing capability of certain musical instruments, vocal range, and composition capability of different styles of music. For example, a rock band normally requires cooperation among guitarist, bassist, and drummer, and others, but this cooperation does not necessarily mean making an organization, but means possibility of choosing one of several modes of cooperation among musicians. There are many musicians who

employ session musicians temporarily for song recording or concerts. If a group of musicians forms a band not a temporary contractual relationships, there would be difference between those two modes of cooperation in terms of motivations and processes.

The motivations and processes have been interwoven with historical events of Korean pop music field and Korean national history as a whole. Korean pop music field had been influenced by its national history. During the Japanese colonial era from 1910 to 1945, Japanese pop music was introduced and the genre of *Trot* (or *Teuroteu*) was developed. Also, due to the residence of United States Military ('US Military' hereafter) in South Korea after the Korean War, rock and soul music were introduced. College students in 1970s also adopted Folk music that were popular in United States at that period. Thus, different genres were adopted and recreated in South Korea since 1960s, and musicians make their music alone or with others, and they form and dissolve their collaborations for their music making. Figure 1 provides a network description of Korean pop culture. This figure represent the network description of music making units (solo musicians and bands) connected by prior co-memberships of their members (Breiger, 1974). In the largest component in the center, rock and soul musicians are located, who are actively change their members or form their bands.

Figure 1. Collaboration Network of Korean Pop Musician from 1960 to 1975



One notable event in Korean pop music field is On 13 May 1975, Korean military government announced the 9th Emergency Act, which enable the government to ban any media and artistic activity of people who are against the government. This governmental act influenced pop music field in several ways. First, Korean government banned more than 200 pop songs for unclear reasons in the same year (Moon, 2004). Those banned songs cannot be aired in any broadcast station or be performed in any concert. Second, in December 1975, the government started drug investigation for musicians and actors without any clear legal clause of Marijuana prohibition (Kim, 2005). As a result, about one hundred people were punished and some of them were not allowed to perform any artistic activity (Kim, 1998).

Among those who are investigated, more than 50 people were musicians, and most of them were high status and visible musicians whether it is intended or not (Shin, 2005b). Table 2 shows network characteristics and creativity of

musicians from 1971 to 1975. T-test results confirms that the banned musicians and others are different in terms of betweenness centrality and creativity under 1% significance level. One possible explanation of this difference is that the emergency act itself was initiated by the purpose of prohibiting artists who could have significant impact on negative image of the military government. Thus, high status musicians who really could affect general audiences more significantly might be intensively investigated. Another possible explanation is that the government attempted to identify network of accomplice for drug investigation, so highly connected musicians were more likely to be arrested.

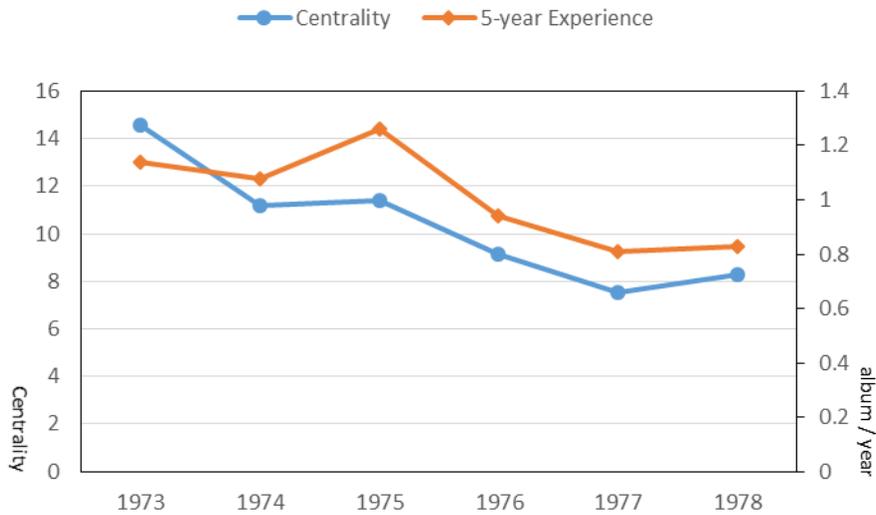
Table 2. Summary Statistics of Musicians from 1971 to 1975

Characteristics	Musicians arrested	Musicians performed the banned songs	Other musicians
<i>Degree</i>	4.80851 (0.522493)	3.07865 (0.25492)	3.71347 (0.87646)
<i>Betweenness Centrality</i>	30.55855 (12.14451)	20.0298 (6.68055)	9.90478 (1.78263)
<i>Number of Album Released in 5 previous years</i>	1.19149 (0.05511)	1.37079 (0.05311)	1.15939 (0.02641)
N	94	267	1581

Standard errors in parentheses

The result of the 9th Emergency Act is dissolution of collaborative relationships and their creative performance. Figure 2 describes centrality and capability of active musicians from 1973 to 1978. There was dramatic drop between 1975 and 1976, suggesting that the musicians who were active right after 1975 had lower status and capability than the musicians active right before 1975.

Figure 2. Average Centrality and Prior Experience of Active Musicians



Network Effect on Organizational Creativity in Pop Musician Network

Primary effect of network for creativity is that knowledge combination. Organizational activities require coordination among the members. In this coordinative process, organizational members share their knowledge. An example to support this is formation of a group *Seo Taiji and Boys*. In an interview with a member of the group, Yang Hyun-Suk mentioned that Seo Taiji, who was a bassist in rock band *Sinawi*, intently approached to Yang Hyun-Suk to learn dance music and they successfully combine rock and dance music in their albums (Choi, 2012).

In addition to knowledge combination effect, prior collaborative experiences with others having distinctive knowledge can be a chance to absorb the knowledge. The knowledge in question can be diverse type. It can be different music style, and playing techniques. In the interview of one prominent musician, Yongpil Cho revealed this kind of perspective:

I was lucky because there were outstanding young guys like Jae-ha Yoo, Kwangmin Kim, and Won Young Chung in my band Widaehan Tansaeng (name of Yongpil Cho's band). ... I think I can still work because of them. (translated and comment in parenthesis by author; Kang, 1997)

Opportunity-Seeking Dynamics and Processes Opportunism in different modes of organizational relationships have long been studied (Williamson, 1985). In game theoretic explanations of cooperative relationship, opportunism includes defective behavior after relationship between two actors are determined (Arend & Seale, 2005). It can also include decision on relationship formation itself. Specifically, an actor intendedly choose an alter who is beneficial to the actor but not vice versa. Of course, high status actors are more likely to be the intendedly chosen alter since more benefits are expected from more capable partners.

The problem regarding this is that network effect on creativity cannot work if this kind of collaborative relationships can comprise significant portion of the network. In this regard, Perry-Smith and Shalley (2003) argue that prior creativity of an actor can lead to higher centrality in its network and that too high centrality of an actor can cause marginally negative effect on creativity because of stress, conflict, and knowledge overload. They do not specify marginally negative effect on creativity by opportunistic tie formation, but it can be one source. This effect is disadvantageous not only to capable actors who are purposefully chosen but also opportunistic actors who choose the capable actors. One reason is that those high status actors cannot have enough time and effort to collaborate with many alters. An interview with a band leader Ham Joonga reveals how opportunity-seeking behaviors can influence collaborative activities in Korean pop music field:

We finally visited Shin Jung-Hyeon. ... He took us as his pupils. Among his persons,

Pearl Sisters was the best. At that time, many musicians visited his office, such as Bonny Girls, Kim Choo Ja, and others. ... Shin Jung-Hyeon was very busy so that he had no time to teach anyone. We just watched and learned. (Yang, 2008)

Coercive Network Dissolution as Treatment of High Status Actors' Absence

Based on the marginally negative effect or null effect of network position on creativity, it can be extrapolated that the existence of high status actors in collaborative network can hinder network effect on creativity. This paper sees the coercive network dissolution in 1975 by the government emergency act can provide a setting to test the aforementioned argument.

This event had huge impact on pop music field. Many critics describe this period as dark age of Korean pop music (Jang & Seo, 2015). But, this period was an opportunity for low status musicians. This is because remaining musicians should find alternative alters other than dominant actors, which may lead to mutual knowledge exchange. For this reason, it can be conjecture that they are more likely to pursue effective collaboration, leading to significant network effect on creativity. Therefore, I propose difference in network effect of knowledge channeling on creativity depending on network condition of existence of high status actors as follows:

Hypothesis 1a: Bands having higher degree are likely to exhibit more artistic creations than bands in lower degree after the coercive network dissolution in 1975, whereas the degree effect is insignificant before 1975.

Hypothesis 1b: Bands having higher centrality are likely to exhibit more artistic creations than bands in lower centrality after the coercive network dissolution in 1975, whereas the centrality effect is insignificant before 1975.

Studies on bridging ties argue that actors having this type of ties can obtain novel information and knowledge. It is not necessary that bridging ties connect to high status actors. This type of ties connect any actors in different clusters, and this bridging actors can benefit from combination of information and knowledge developed in different groups of actors. Therefore, regardless of high status actors' presence, effect of bridging tie on creativity can be realized.

Hypothesis 1c: Bands having larger structural holes are likely to exhibit more artistic creations than bands in smaller structural holes.

Network Effect on Subsequent Collaborative Tie Formation Analysis of network effect on organizational creativity can provide an explanation of production process of organizations, but the effect can be constrained in condition of tie formation (i.e. forming a new band). Tie formation is dynamic change in network systems, and different dynamics occur in different systems. McPherson and Ranger-Moore (1991) show evolutionary dynamics in voluntary organizations. The main mechanism in their model is homophily and the dynamic change in this field is moderate fluctuating below and above the stable level of Blau space.

Regarding Korean pop music field and others, search and opportunity seeking motivation can shape different types of dynamic mechanisms. Local search motivation can cause collaboration among actors in same cohesive clusters. In a cohesive cluster, knowledge on similar scope is more likely to shared, so knowledge development in limited scope is suitable. Distant search can lead to collaboration between actors in different clusters, such as musicians who produced different genre of music.

Opportunity seeking motivation can shape a tie formation between more capable individual and less capable individual. Of course, there is possibility that more capable individual proposes less capable one to collaborate. However, making a collaborative relationship is formed by a mutual agreement, thus one can assume opportunity seeking motivation in some extent.

Existence of dominant actors in terms of capability or status can influence these dynamic mechanisms, especially for opportunity seeking dynamics. If a small number of high status actors dominate the ties in the network, other actors' motivation to collaborate with the high status actors can increase. This is because their existence can be strong signal in the field. For example, as described in the interview with Joonga Ham, Joong-Hyeon Shin was asked to collaborate from many other musicians. However, if the high status actors are eliminated in the field, then other actors' attention may be different.

Hypothesis 2a. The more gaps between network degrees of band members previously, the more likelihood of forming a collaborative dyad before 1975 but not after 1975.

Hypothesis 2b. The more gaps between network centralities of band members previously, the more likelihood of forming a collaborative dyad before 1975 but not after 1975.

Models and Method

Data

Database This study examines collaboration network of pop musicians in

Korea. The database this paper used is the web archival data from maniaDB (www.maniadb.co.kr). This database is established by the founders of it and other users, and is known for most comprehensive database of Korean pop music. Musicians, bands, and their album released are uniquely identified, so panel data of bands and members is constructed from the database. Choi (2014) and Shin (2005a, 2005b) are used for supplementary information.

The official list of banned musician was published by Ministry of Culture and Communication, but the document is not existent. Thus, news articles covering the banned musicians are used to identify them (Kyunghyang Shinmun, 1976). The list of banned songs is archived by Moon (2004), National Archives of Korea¹, Archive and Research Center for Korean Recordings in Dongguk University², and Korea Creative Contents Agency³, so I used these datasets for coding song-banned musicians.

This study uses panel data from 1966 to 1985, which covers 10 years before and after the 9th Emergency Act.

Study 1: Network Effect on Organizational Creativity

The purpose of the first study is to see whether the presence of high status actors influenced the effect of structural position on creative performance. Using the year panel data of music making unit and its number of album produced, this study examines relationship between structural measures and creativity. The network studied here is network that is historically accumulated by current and prior

¹ Forbidden Song List (URL: <http://theme.archives.go.kr/next/tabooAutonomy/forbiddenSongList.do>.)

² Korea SP Record (<http://www.sparchive.co.kr/>)

³ CulturalContents.com (<http://www.culturecontent.com>)

participation in music band (Breiger, 1974). Overlapping network of band and solo musicians is calculated from the affiliation network, and it is analyzed in study 1.

Dependent Variable Creativity is measured by the number of album released in each year like the number of patent in R&D organizations. 0 and 1 are dominant in this variable (61.08% and 33.22% respectively), which implies that higher performance was not frequently achieved.

Independent Variables *Degree* is measured by the number of direct ties which connect ego with alters. Following prior studies examining fragmented networks, *centrality* variable used in this study is betweenness centrality (Freeman, 1977). *Structural hole* is measured by effective size of structural holes. These network measures are calculated by *UCINET 6* (Borgatti, Everett, & Freeman, 2002).

Control Variables Other variables that can influence organizational creativity are used as control variables. *Band size* is measured by the number of members in the band. *Band age* is measured by years passed after the band sets its members. *Members' prior experience* is measured by sum of mean number of album released in recent five years by all members in the band. *Solo musician* is a dummy variable to identify the focal music making unit is solo. The music production processes of solo musicians can be different from bands' processes. Many solo musicians somehow depend on contractual relationships to make music, except for extremely rare musicians who can write and perform music all by him/herself. For this reason, this study predict that being a solo musician is a liability for being creative.

Analyses This study predicts creativity of music making units by network variables and other music making units' characteristics. The model specification of the first is described as follows:

$$\text{Creativity}_{i,t} = \beta_1 d_{i,t} + \beta_2 c_{i,t} + \beta_3 s_{i,t} + \gamma_1 M_{i,t}$$

where d denotes degree, c denotes (betweenness) centrality, s denotes effective size of structural holes, and M denotes vector of music making unit i 's characteristics on time t . This study predicts insignificant β_1 and β_2 , and positive β_3 before 1975, and predicts positive β_1 and β_2 , and positive β_3 after 1975.

Because of the dominant proportion of 0 and 1 in creativity variable, this study uses zero inflated negative binomial regression. By using this model, this study expects that different mechanisms can drive no creative performance (0 album released on year t) and 1 and more albums. Specifically, two control variables (*band age* and *members' prior experience*) are used to predict inflation regime, and all independent and control variables are used to predict count regime. Vuong test partly suggest that zero inflated negative binomial regression outperforms standard negative binomial regression analysis for this data.

Table 3 presents descriptive statistics of the variables in this model. It shows high correlation between *degree* and *structural holes*, so those two variables are separately used to avoid multicollinearity problem.

Table 3. Summary Statistics and Bivariate Correlation for Study 1

Variables	Mean	SD	1	2	3	4	5	6
1 Degree	1.1388	0.6488	1.000					
2 Centrality	0.1802	3.5738	0.424	1.000				
3 Structural hole	0.1624	0.5122	0.973	0.448	1.000			
4 Band size	1.2741	1.1232	0.389	0.229	0.388	1.000		
5 Band age	4.1798	4.9548	-0.132	-0.040	-0.140	-0.192	1.000	
6 Member experience	0.3597	0.8575	0.280	0.095	0.267	0.134	0.094	1.000

Study 2: Network Effect on Collaborative Dyadic Tie Formation

The purpose of the study 2 is to test a model predicting formation of a collaborative dyadic tie between two actors (i.e. musicians). This study regards band formation as bundles of inter-individual ties among the members. For example, if a band is formed by member A, B, and C, then this band formation is regarded as formation of tie A-B, A-C, and B-C. This method has several appropriateness. First, this study assumes that individual musicians behave strategically. So this study believes that a member's decision to join a band implies his or her evaluation of all ties with other band members being beneficial. Second, since, in many cases, bands are disbanded with the decision of exit of its member(s), new tie formation between two music making units is not frequent, so individual level tie formations are practically easy to test.

The unit of analysis in the second study is dyad between any two active musicians, so this study tests realized and unrealized dyads among all active musicians in the field in each year only except for ongoing collaborative relationships (that is, dyads older than 2 years). Totally, 3,025,840 observations are tested.

Dependent Variable *Dyadic tie formation* is a binary variable meaning that a musician and another form a collaborative relationship by affiliation of the same band in year t . This is 1 if two musicians have no collaborative relationship in year $t - 1$ and form a relationship in year t .

Independent Variables Independent variables consist of distances of two musicians in each dyad in terms of structural characteristics and creative experience. *Degree gap* is measured by absolute value of degree gap between two musicians in the previous year. *Centrality gap* is measured in same way with betweenness centrality. *Experience gap* is measured by absolute value of mean

value of the number of album released by each musicians in previous 5 years.

Control Variables This test controls homophilous factors than can influence tie formation. Two variables are used to control homophily mechanism: similarity in music genre and educational background. It is obvious that musicians making same genre of music are more likely to form a band. Similarity in education level is important partly because college students have more chances to interact each other via inter-university clubs and gatherings and partly because college students and graduates can have same identity, such as educated group of people.

Genre overlap is 1 when ego and alter produced at least one genre of music commonly until one year before the focal year; and 0 when no genre is shared. *Education gap* measures gap between two musicians in terms of education level. It is 1 if one musician attended 4-year university while the other did not attend 4-year university; and 0 if both musicians attend 4-year university or both did not.

Also, this study controls structural closeness between two musicians. Referral mechanism or acquaintance can lead to tie formation. *Inverse geodesic distance* is used to measure closeness. Since geodesic distance between two musicians in two fragmented components is infinite, in order to make distance measure finite, inverse measure is used. Thus, 0 in this variable means that two musicians were located in different components, and 1 means two musicians were in same band.

Analyses The dependent variable is binary, thus logistic regression is used for this study. This model tests effects of independent variables to predict dyadic relationship formation between any two members in pop music bands. The model specification of this test is as follows:

$$\text{Dyad Formation}_{ij,t} = \beta_4 D_{ij,t-1} + \beta_5 C_{ij,t-1} + \beta_6 S_{ij,t-1} + \gamma_2 G_{ij,t-1} + \gamma_3 E_{ij} + \gamma_4 V_{ij,t-1}$$

where D denotes degree gap, C denotes (betweenness) centrality, S denotes effective size of structural holes between musician i and j in year $t - 1$. G , E and V denote genre gap, education gap and inverse geodesic distance between two musicians respectively. This study predicts positive β_4 and β_5 before 1975, and have no prediction for β_6 .

Table 4 presents descriptive statistics of the variables in this model. It shows high correlation between *degree gap* and *structural holes gap*, so those two variables are separately used to avoid multicollinearity problem.

Table 4. Summary Statistics and Bivariate Correlation for Study 2

Variables	Mean	SD	1	2	3	4	5	6	7
1 <i>Degree gap</i>	4.269	4.702	1.000						
2 <i>Centrality gap</i>	66.605	408.038	0.253	1.000					
3 <i>Structural hole gap</i>	1.844	2.761	0.838	0.396	1.000				
4 <i>Experience gap</i>	0.733	1.305	0.150	0.083	0.246	1.000			
5 <i>Inverse geodesic</i>	0.005	0.041	0.038	0.109	0.087	0.039	1.000		
6 <i>Genre overlap</i>	0.319	0.466	0.085	0.048	0.124	0.112	0.042	1.000	
7 <i>Education gap</i>	0.309	0.462	-0.031	-0.005	-0.020	0.045	0.003	0.008	1.000

Results

Study 1 tests positional effect in collaborative network on creative outcomes. Table 5 reports the results. Inflation regime in Table 5 suggests negative effect of band age and partly positive effect of members' prior experience on making at least one album per year. In count regime, model 1 and 3 report that degree and centrality

have no effect or negative effect on creativity, whereas model 2 and 4 suggest positive effect of centrality on creativity. This result partly support hypothesis 1b. Degree and structural holes do not seem to influence creative performance.

Control variables in this model partly predict creative performance. The result shows that band age significantly decrease creative performance. This suggests liability of oldness for creativity. Also, the result shows that members' prior experience significantly increase creative performance, whereas band size decrease creative performance. Bigger organization may have harder time in coordinating members' ideas. One notable result is negative effect of solo musician. Many solo musicians were managed by an entertainment company or a producer, and they need to contract session musicians to make music. Under this kind of practice, it is hard for solo musicians to develop their creative capability and have long-lasting relationships with other musicians.

Table 5. Zero Inflated Negative Binomial Estimates of Influence on Band Creativity

	Model 1 1966-1975	Model 2 1976-1985	Model 3 1966-1975	Model 4 1976-1985
Count				
<i>Degree</i>	0.085 (0.085)	-0.050 (0.051)		
<i>Betweenness centrality</i>	-0.059 (0.037)	0.012*** (0.003)	-0.074* (0.038)	0.012*** (0.0035)
<i>Structural holes</i>			0.161 (0.112)	-0.058 (0.057)
<i>Band age</i>	-0.106*** (0.019)	-0.065*** (0.009)	-0.107*** (0.019)	-0.065*** (0.009)
<i>Band size</i>	-0.219*** (0.066)	-0.047 (0.033)	-0.221*** (0.065)	-0.047 (0.033)
<i>Member experience</i>	0.281*** (0.027)	0.177*** (0.031)	0.280*** (0.027)	0.177*** (0.031)
<i>Solo</i>	-0.369* (0.190)	-0.362*** (0.112)	-0.354* (0.190)	-0.363** (0.112)
<i>Constant</i>	0.125 (0.250)	-0.047 (0.152)	0.191 (0.236)	-0.095 (0.136)
Inflation				
<i>Band age</i>	0.916*** (0.273)	0.372*** (0.0335)	0.920*** (0.280)	0.372*** (0.034)
<i>Member experience</i>	-21.220 (15.840)	-17.150*** (6.152)	-20.740 (15.200)	-17.170** (6.173)
<i>Constant</i>	-6.858*** (2.242)	-3.991*** (0.356)	-6.899*** (2.308)	-3.992*** (0.357)
<i>Ln(a) dispersion</i>	-0.663*** (0.160)	-2.511*** (0.435)	-0.665*** (0.160)	-2.514*** (0.437)
<i>Log-likelihood</i>	-1247.632	-2852.291	-1247.105	-2852.247
<i>LR χ^2</i>	129.81	84.44	130.86	84.52
<i>N</i>	1213	3355	1213	3355

Standard errors in parentheses

* p<0.10, ** p<0.50, *** p<0.01

Study 2 tests whether presence of high status actors affects dynamics of collaborative network. Table 6 reports its results. First, the coefficients of degree gap in two periods (i.e. before and after 1975) are negative and only that of post-1975 period is significant. The result partly shows that degree gap between two musicians can decrease propensity of musician dyad formation. In other words, musicians who experienced more colleagues are more likely to form themselves. This result does not confirm hypothesis 2a. Second, the results shows that centrality gap between two musicians increases propensity of collaboration. Specifically, its coefficient in model 1 is larger than that in model 2, and the coefficient in model 4 is not significant. This suggests that presence of high status actors is related to motivation of low status actors to collaborate with high status actors. Thus, this result support hypothesis 2b.

Table 6. Logistic Estimates of Influence on Musician Dyad Formation

	Model 1 1966-1975	Model 2 1976-1985	Model 3 1966-1975	Model 4 1976-1985
<i>Degree gap_{t-1}</i>	-0.0174 (0.0314)	-0.0345** (0.0153)		
<i>Centrality gap_{t-1}</i>	0.00192*** (0.000469)	0.000186** (0.000087)	0.00178*** (0.000518)	0.000107 (0.000098)
<i>Structural holes_{t-1}</i>			0.0047 (0.0460)	0.0127 (0.0198)
<i>Inverse geodesic distance_{t-1}</i>	5.943*** (0.475)	6.963*** (0.276)	5.978*** (0.470)	6.952*** (0.279)
<i>Experience gap_{t-1}</i>	0.0553 (0.0466)	0.1560*** (0.0226)	0.0426 (0.0494)	0.1450*** (0.0237)
<i>Genre overlap_{t-1}</i>	0.874*** (0.236)	0.583*** (0.143)	0.882*** (0.235)	0.546*** (0.143)
<i>Education gap_{t-1}</i>	0.213 (0.233)	0.185 (0.143)	0.224 (0.233)	0.194 (0.142)
<i>Constant</i>	-9.135*** (0.228)	-10.020*** (0.128)	-9.198*** (0.213)	-10.160*** (0.120)
Log likelihood	-666.2641	-2045.5302	-666.4151	-2048.1063
Pseudo R ²	0.0876	0.0844	0.0874	0.0832
N	334073	2691767	334073	2691767

Standard errors in parentheses

* p<0.10, ** p<0.50, *** p<0.01

Discussion and Conclusion

This study attempts to look into how given condition of collaborative structure influence its processes and dynamics. Especially focusing on existence of high status actor, the empirical test of this study suggests that presence of high status actors can weaken topological effect on creative performance and strengthen opportunity-seeking dynamics.

In topological sense, a few high status actors can be beneficial for whole

field, since they can function as hubs which can construct small world network and transfer information and knowledge very efficiently. However, explanation like this can miss some behavioral aspects in collaborative network. In this regard, this study find partial evidence implying that presence of high status actors diminish topological benefit. Also, this study finds that, despite the lack of significant benefit, actors can engage more actively in collaborating with high status actors. This may result from strength of signaling effect of high status actors. Attention of actors is attracted by strong visibility of a few high status actors, so actors are more willing to collaborate with actors with much higher centrality.

There are several limitations in this study. First, this study only consider collaborative network constructed by affiliation to same band. However, in pop music field, other types of collaborations exist, such as composers, lyricists, arranger, and producers. Examination of multiple networks in this field can suggest more diverse and detailed mechanisms in collaborative networks. Second, this study compares the same field in different period, so unobserved factor(s) can affect difference in topological effect and network dynamics. To address this concern, the same model with year dummy is tested. Its results also correspond with the original results. Third, this study analyzes effect of high status actors on topological benefit and network dynamics separately, but does not study relationship between them. Uncovering this relationship would be another research theme.

Despite these limitations, this study uncover a conditional factor that can influence information transfer and dynamics of social network. By testing a field before and after its coercive dissolution of central actors, this study shows that different processes in network ties and different network dynamics can occur depending on its given condition of network structure.

References

- Ahuja, G. 2000a. Collaboration networks, structural holes, and innovation: A longitudinal study. *Administrative science quarterly*, 45(3): 425-455.
- Ahuja, G. 2000b. The duality of collaboration: Inducements and opportunities in the formation of interfirm linkages. *Strategic management journal*, 21(3): 317-343.
- Amburgey, T. L., Al-Laham, A., Tzabbar, D., & Aharonson, B. 2008. The structural evolution of multiplex organizational networks: research and commerce in biotechnology. *Advances in Strategic Management*, 25(1): 171-209.
- Arend, R. J., & Seale, D. A. 2005. Modeling alliance activity: an iterated prisoners' dilemma with exit option. *Strategic Management Journal*, 26(11): 1057-1074.
- Bae, J., Wezel, F. C., & Koo, J. 2011. Cross-cutting ties, organizational density, and new firm formation in the US biotech industry, 1994–98. *Academy of Management Journal*, 54(2): 295-311.
- Baum, J. A., Calabrese, T., & Silverman, B. S. 2000. Don't go it alone: Alliance network composition and startups' performance in Canadian biotechnology. *Strategic management journal*, 21(3): 267-294.
- Borgatti, S. P., Everett, M. G., & Freeman, L. C. 2002. UCINET 6 for Windows. *Harvard: Analytic Technologies*, 185.
- Breiger, R. L. 1974. The duality of persons and groups. *Social forces*, 53(2): 181-190.
- Choi, K. S. 2014. *Pop Music LP Guide Book: History of Korean Pop Music*. Goyang: Annapurna.
- Choi, Y. 2012. Yang Hyun-Suk Interview, *Healing Camp*: Seoul Broadcasting System.
- Cohen, W. M., & Levinthal, D. A. 1990. Absorptive capacity: a new perspective on learning and innovation. *Administrative science quarterly*: 128-152.
- Davis, G. F., & Greve, H. R. 1997. Corporate elite networks and governance changes in the 1980s. *American journal of sociology*, 103(1): 1-37.
- Faulkner, R. R. 1983. *Music on demand*: Transaction Publishers.
- Fleming, L., King III, C., & Juda, A. I. 2007. Small worlds and regional innovation. *Organization Science*, 18(6): 938-954.
- Freeman, L. C. 1977. A set of measures of centrality based on betweenness. *Sociometry*: 35-41.
- Granovetter, M. S. 1973. The strength of weak ties. *American journal of sociology*: 1360-1380.
- Gridley, M. C. 1999. *Jazz Styles: History and Analysis* (7th ed.): Prentice-Hall.
- Guimera, R., Uzzi, B., Spiro, J., & Amaral, L. A. N. 2005. Team assembly mechanisms determine collaboration network structure and team performance. *Science*, 308(5722): 697-702.
- Hernandez, E., Sanders, W. G., & Tuschke, A. 2014. Network defense: pruning, grafting, and closing to prevent leakage of strategic knowledge to rivals. *Academy of Management Journal*: amj. 2012.0773.
- Jang, Y., & Seo, B. 2015. *Introduction to K-pop History*. Seoul: Seongandang.
- Kang, H. 1997. Interview of the King of Singer, Yongpil Cho: Solidarity Formed by Blood and Sweat, *Review*, Vol. 12: 114-115.
- Kim, S. 1998. Shin Jung-Hyeon: Now he talks the banned culture, *Seoul Newspaper*.
- Kim, S. 2005. 30 years after the Marijuana shock: Young culture were damaged by "Happy Smoke", *Hankyoreh*.
- Kyunghyang Shinmun. 1976. Any broadcasting activity is banned, 31 January.
- McPherson, J. M., & Ranger-Moore, J. R. 1991. Evolution on a dancing landscape:

- organizations and networks in dynamic Blau space. *Social Forces*, 70(1): 19-42.
- Mitsuhashi, H., & Greve, H. R. 2009. A matching theory of alliance formation and organizational success: Complementarity and compatibility. *Academy of Management Journal*, 52(5): 975-995.
- Moon, O. B. 2004. *Social History of Banned Korean Songs*. Seoul: Yesol.
- Pahnke, E., McDonald, R., Wang, D., & Hallen, B. 2014. Exposed: Venture capital, competitor ties, and entrepreneurial innovation. *Academy of Management Journal*: amj. 2012.0777.
- Perry-Smith, J. E., & Shalley, C. E. 2003. The social side of creativity: A static and dynamic social network perspective. *Academy of management review*, 28(1): 89-106.
- Podolny, J. M. 2001. Networks as the Pipes and Prisms of the Market1. *American journal of sociology*, 107(1): 33-60.
- Polidoro, F., Ahuja, G., & Mitchell, W. 2011. When the social structure overshadows competitive incentives: The effects of network embeddedness on joint venture dissolution. *Academy of Management Journal*, 54(1): 203-223.
- Powell, W. W., White, D. R., Koput, K. W., & Owen-Smith, J. 2005. Network dynamics and field evolution: The growth of interorganizational collaboration in the life sciences1. *American journal of sociology*, 110(4): 1132-1205.
- Reagans, R., & McEvily, B. 2003. Network structure and knowledge transfer: The effects of cohesion and range. *Administrative science quarterly*, 48(2): 240-267.
- Ruelle, D. 1979. Sensitive dependence on initial condition and turbulent behavior of dynamical systems. *Annals of the New York Academy of Sciences*, 316(1): 408-416.
- Schilling, M. A., & Phelps, C. C. 2007. Interfirm collaboration networks: The impact of large-scale network structure on firm innovation. *Management Science*, 53(7): 1113-1126.
- Shin, H. 2005a. *Archeology of Korean Pop Music 1960s: Emergence and Revolution of Korean Pop Music*. Paju: Hangil Art.
- Shin, H. 2005b. *Archeology of Korean Pop Music 1970s: Korean Folk and Rock Music, and Their Summit and Divergence*. Paju: Hangil Art.
- Uzzi, B. 1996. The sources and consequences of embeddedness for the economic performance of organizations: The network effect. *American sociological review*: 674-698.
- Uzzi, B. 1997. Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative science quarterly*: 35-67.
- Uzzi, B., & Spiro, J. 2005. Collaboration and creativity: The small world Problem1. *American journal of sociology*, 111(2): 447-504.
- Vissa, B. 2011. A matching theory of entrepreneurs' tie formation intentions and initiation of economic exchange. *Academy of Management Journal*, 54(1): 137-158.
- Walter, J., Levin, D. Z., & Murnighan, J. K. 2015. Reconnection Choices: Selecting the Most Valuable (vs. Most Preferred) Dormant Ties. *Organization Science*, 26(5): 1447-1465.
- Williamson, O. E. 1985. *The Economic Institutions of Capitalism: Firms, Markets, and Relational Contracting*. New York: The Free Press.
- Yang, H. 2008. Ham Joong-A, the Forerunner of Second Generation of Korean Roc, *Dong-a Ilbo*.
- Zaheer, A., & Bell, G. G. 2005. Benefiting from network position: firm capabilities, structural holes, and performance. *Strategic management journal*, 26(9): 809-825.

초록

연결망이 창의성 및 조직 형성에 미치는 영향에 대한 연구:

1975년 긴급조치 9호 전후의 한국 대중음악인 연결망에 대한 실증연구

서울대학교 대학원

경영학과 경영학 전공

전천후

협업 관계와 창의성에 대한 선행연구는 특정한 구조적 위치가 창의성에 긍정적이라고 주장한다. 이러한 주장은 협업이라는 연결고리를 통해 아이디어와 지식을 전파하고 혼합할 수 있다는 생각에 근거한다. 그러나 특정한 협업 연결망 조건이 이러한 위치의 효용을 약화시킬 수 있다는 점에 대한 연구는 충분하지 않다. 또한 이러한 협업 연결망 조건이 네트워크 동태에도 영향을 줄 수 있을 것이다. 본 연구의 목표는 높은 지위를 가진 행위자의 존재가 위치상의 우위나 연결망 동태에 영향을 줄 수 있는지를 살펴본다. 본 연구는 한국 대중음악 밴드 및 솔로 예술인의 소속 연결망을 분석하며, 특히 1975년 긴급조치 9호로 인한 연예인 마약 수사 이전과 이후를 검토한다. 이를 통해 갑작스런 고지위의 행위자들이 연결망에서 사라짐으로써 지식 전파 및 혼합이 창의성에 주는 영향력을 강화할 수 있는지를 분석한다. 본 연구의 밴드 네트워크 및 음악인 네트워크 분석 결과는 위치에 의한 우위가 고지위 행위자의 존재 하에서는 잘 작동하지 않는다는 점을 보여준다. 또한 본 연구는 고지위 행위자가 존재했을 때 구조적 특성이나 경험 상에 있어서 격차가 큰 행위자들끼리 더 협업 관계를 형성한다는 점을 보여준다. 본 연구는

협업의 효과를 연구하는 데 있어서 역사적으로 축적된 조직간 구조의 조건을 고려하는 것이 중요하다는 점을 보여준다.

주요어: 조직간 연결망, 사회연결망, 협업, 창의성, 한국대중음악

학 번: 2014-20414