WEAVING A WEB FOR CULTURAL CAPACITY:  
A NETWORK ANALYSIS OF THE CULTURAL ECOSYSTEM IN COLUMBUS, OHIO  

DISSERTATION  

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ABSTRACT

This dissertation investigates ways to increase city competitiveness through arts and culture from a network perspective. Along with the rise of the knowledge economy, cities face competition to achieve a better position for attracting and retaining talented professionals, called the creative class. Since the creative class tends to move in places known as thriving arts scenes, entertainment opportunities, and open environment, arts and culture have become a significant policy issue. In this context, this dissertation proposes that in order to increase city competitiveness, a city needs to create a favorable environment that can improve cultural capacity. Drawing on the literature that emphasizes networks in the production- and policy support system as the key for innovation capacity, this dissertation suggests that networks among actors who are involved in arts and culture can enhance the cultural capacity of a city. By using concepts and techniques of Social Network Analysis, this dissertation provides a theoretical and methodological framework that assesses the cultural capacity of a city. A preliminary explanatory case study of networks among actors in the cultural ecosystem in Columbus, Ohio is provided.
Dedicated to my parents
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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

This dissertation investigates ways to enhance city competitiveness through arts and culture. The recent growing competition among cities has motivated this study. Along with the rise of the knowledge economy, cities face competition to achieve a better position for attracting and retaining economic resources, especially high-quality professionals. In the background exists a particular group of people, called the “creative class” (Florida, 2002). As creativity has become spotlighted as a driving force of today’s economy, the creative class, which “consists of people who add economic value through their creativity,” takes a leadership role in economic success (Florida, 2002, p. 68). Since the creative class tends to move in places known as thriving arts scenes, entertainment opportunities, and open environment (Florida, 2002), creating an attractive place for the creative class has become a dominating topic in conversations of city leaders.

The recent rush of city rankings reveals the “importance of place” (Florida, 2008) in determining the economic future of a city. Every year, newspapers and magazines release numerous versions of city rankings such as “the best places to live” (Forbes Magazine), “America’s 50 hottest cities” (Expansion Management), “best cities for business” (Fortune Magazine), “top 25 cities for doing business in America” (Inc.Magazine), “best American cities to start a business” (P.O.V. Magazine), “cool
cities” (Kiplinger.com), etc. As these rankings guide individuals and businesses that are planning to relocate by assessing the attractiveness of a city, highly ranked cities can improve their image nationally and internationally (Giffinger et al., 2008). Accordingly, city leaders try to upgrade their position in the city league table because the rankings have become a useful promotion tool for cities (Caust, 2003; Giffinger et al, 2008; Strom, 2002, 2003; Turok, 2004). Mottos like “livable place,” “cool city,” or “quality living environment”, that are often found in recent city development plans, reveal those city leaders’ expectations.

From the perspective of cultural policy, the increasing competition among cities provided a new breakthrough in cultural policy research and planning. As can be seen in their titles, city rankings are assessed with a wide range of criteria (economic, social, and geographical). What is noteworthy here is the fact that something related to arts and culture (e.g., arts and cultural venues, historic districts, community festivals) are often found among these criteria. Consequently, arts and culture have become one of the “must have” items in a city’s policy agenda; a variety of experiments, such as promoting arts and cultural events, building iconic architectures, and developing cultural districts, have recently been attempted in cities all over the world (Caust, 2003; Garcia, 2004; Strom, 2002, 2003; Turok, 2004).

The relationship between arts and culture, and cities is the point of departure in this dissertation. Increasing concern with arts and culture under the discussion of city competitiveness gave new life to cultural policy research. For more than 30 years, arts and culture had occupied a marginal position in a city’s policy agenda, and were recognized as a passive receiver of public money with philanthropic purposes.
More recently, arts and culture have become priorities for investment, with the expectation of increasing cities’ competitiveness (Caust, 2003).

Accordingly, the focus of cultural policy research has changed. Since the late 1990s, a number of studies have been carried out with specific attention to the role of arts and culture in enhancing the competitiveness of a city. Two research trends are often found under this topic: (1) city promotion through urban amenities, and (2) mapping creative industries. While both discussions are related to culture-led city competitiveness that further lead to the economic growth of a city, the former focuses on the consumption side of arts and culture, whereas the latter is concerned with the production side (Smidt-Jenson, 2007).

The first trend emphasizes a city’s physical transformation through arts and culture. Recent studies stress the role of arts and culture in the promotion of places, and draw attention to large-scale urban makeover or refashioning city projects, such as cultural venues and districts, street markets, shopping and entertainment centers, and public art installations as a new vision for cities (Bianchini, 1993; Florida, 2002; Landry, 2000; Sassen 2001; Sasaki, 2004; Smidt-Jensen, 2007; Strom, 2002, 2003). This line of literature highlights the impact of such projects on luring tourists, business headquarters, and talented professionals to cities.

Under the discussion of urban amenities, the perspective of arts and culture has shifted from being a passive receiver of philanthropy to offering a new vision for a city’s economic development. However, this new vision of arts and culture is simply regarded as a short-term eye candy to attract people and money, rather than as a serious target for long-term development. To date, due to too much emphasis on the immediate economic
return, urban amenities projects have mass-produced only short-term, product-oriented, and discrete projects.

The second trend, mapping creative industries, approaches arts and culture with a long-term perspective. Creative industries literature addresses the need for long-term investment for creative industries in order to increase their capacity and to further create better cultural products and services (Americans for the Arts, 2005; Herbert Research, 2006; Markusen, 2002, Urban Institute, 2006). A series of attempts have been made to identify the number of individuals and businesses in creative industries and the revenue from creative cultural products. For example, Creative Industries 2005 (Americans for the Arts, 2005) provides the number of employees working in creative industries in U.S. cities. Markusen’s Artistic Dividend (2002) highlights the positive relationship between the non-profit artists’ population and economic growth in U.S. cities. Some recent studies, such as Creative Community Index (Cultural Initiative Silicon Valley, 2005), Cultural Vitality in Communities (Urban Institute, 2006), and The Creative Vitality Index (Herbert Research, 2006), also provide data on the status of creative industries in U.S. cities.

In contrast to urban amenities literature, creative industries literature views arts and culture as an independent source of a city’s economy with their own dynamic, and builds a foundation for long-term investment. However, selective investment in some promising industries can result in a divide between old and new industries in the same cultural sector (Smidt-Jensen, 2007). Moreover, since most of the literature simply compiles existing data and presents a fact sheet of current creative industries, it does not provide any analytical frameworks or policy models.
Both research trends described above have contributed to recognizing the role of arts and culture as a tool for enhancing city competitiveness. However, it is questionable whether the current focus of cultural policy literature adequately serves the challenge that cities face, of achieving a competitive position in the global market through arts and culture. This dissertation attempts to meet this challenge by suggesting a new direction in cultural policy research.

The first step of this attempt begins with identifying problems in the current cultural policy research. These problems appear to stem from the following reasons. First, policy recommendations provided in previous studies mostly focus on short-term, product-related, discrete projects that aim at quick economic returns. Second, studies are often limited to delivering a fact sheet or anecdotal success stories, which do not provide a strong theoretical and methodological base for effective policy-making.

To address these problems, it is necessary to take a long-term, process-related, and integrated approach dedicated to promoting the development potential of arts and culture. This necessitates identifying the underlying dynamics of arts and culture and the ways to empower those dynamics. In order to identify the dynamics that influence the content and quality of arts and culture, this dissertation applies a system approach.

In their study of the cultural dynamics, Barry and Donella (2003) assert, “arts and culture in America constitute a unique ecosystem whose features have been shaped, and continue to evolve, through the confluence of a wide range of influences” (p. 1). Drawing on their approach, this dissertation views the cultural ecosystem as the underlying dynamics of arts and culture that influences the content and quality of arts and culture. The cultural ecosystem is defined here as a set of individuals and organizations
engaged in the creation, production, and distribution of- and policy support for arts and cultural products and services that can be shaped and evolved through environmental factors.

To better understand the nature and function of the cultural ecosystem, this study uses Laumann and Pappi (1976)’s system model. In the study of community elite groups, Laumann and Pappi (1976) view the community as an “open system” of inputs-throughputs-outputs (p. 18). Based on their model, this study considers the cultural ecosystem as a joint process of inputs-throughputs-outputs. Inputs include resources such as artistic expertise, policy authority, and money, and outputs include arts and cultural products, services, and policies. Throughputs include activities that put together the resources and create outputs (e.g., arts and cultural production and policy decision-making processes). Among these three elements of the cultural ecosystem, this dissertation highlights throughputs as the key mechanism for successful function of the cultural ecosystem because throughputs include all of the activities related to mobilizing inputs to create outputs. A close examination of throughputs helps find ways to increase the capacity of the cultural ecosystem, which is referred to in this dissertation as cultural capacity.

While the cultural ecosystem is a joint effort of inputs, throughputs, and outputs, previous studies have largely relied on an input (investment in urban amenities or cultural industries)-output (tourist money, jobs and revenue from creative industries) analysis. Studies on throughputs are missing in the current cultural policy research due to the lack of “hard data” (Laumann & Pappi, 1976, p. 18). Unlike the analysis on inputs and outputs that use documents or statistics to examine complete events, the analysis on
throughputs focuses on ongoing activities of individuals who constitute a system and traces their effect on the system (Laumann & Pappi, 1976). Likewise, this dissertation uses activities of individuals who constitute the cultural ecosystem in a city as the unit of analysis. In this respect, the main concern for this dissertation is to identify factors that promote the performance of actors in the cultural ecosystem that determines the quality of arts and culture.

From the brief overview of the cultural policy literature and system approach provided above, the current cultural policy research and planning appears to “simply a reaction to a crisis” that is limited to the input-out analysis, rather than a pro-active approach that focuses on long term development for the whole system (Barry & Monella, 2003, p. 2). As Tepper (2002) points out, now is the time to discuss “what might be done to foster a more robust, more creative, and more diverse cultural life”, focusing on “working conditions [for actors in the cultural ecosystem] that lead to higher levels of creative output” (Tepper, 2002, p. 159).

To do this, four different but related theories in studies of regional economic development—industrial districts, innovative milieus, learning regions, and regional innovation systems—have been adopted as model approaches in this study. It is not possible to provide a full summary of each theory here, but these theories are reviewed in Chapter 2. Scholars of these theories present a series of guidelines for regional economic development policies, focusing on the role of environmental (economic, political, and social) factors in shaping creativity and innovation (Amin & Thrift, 1994; 1995; Benner, 2003; Camagni, 1991; 1995a; 1995b; 2002; Cooke et al., 1997; Keeble et al., 1999; Maillat, 1998; Maskell & Malmberg, 1999; Porter, 1990; A. J. Scott, 2000). These
scholars suggest that the creation of a favorable milieu that encourages the innovative and creative power of economic actors should be the principal goal for a region expecting future economic success.

The main feature of such a milieu is “the set of relationships that occur within a given geographical area which bring unity to a production system, economic actors and an industrial culture, generating localized dynamic process of collective learning and acting as an uncertainty-reducing mechanism in the innovation process” (Camagni, 1995a, p. 319).

Supported by these theories, this dissertation adds a new agenda for cultural policy research and planning. It highlights the need to create a favorable environment that fosters innovation and creativity in the cultural ecosystem to enhance the cultural capacity of a city. Based on the discussion above, this dissertation proposes the following.

- Arts and culture have a positive impact on increasing city competitiveness that leads to a city’s economic success by attracting human and financial capital.
- To improve city competitiveness through arts and culture, it is necessary to better understand of the underlying dynamics—in this case, the cultural ecosystem—that affect the content and quality of arts and culture.
- To enhance the capacity of the cultural ecosystem, what this dissertation calls cultural capacity, cities’ efforts need to be on the creation of a favorable environment that fosters innovation and creativity in the cultural ecosystem.
1.2 Objective of the Study

The objective of this dissertation is three-fold: First, this dissertation suggests a new agenda for cultural policy research and planning. Second, based on the agenda, it provides a research tool to examine the cultural capacity of a city. Finally, by using the research tool, it provides a case study of a city’s cultural ecosystem.

The first objective is related to the attempt to find the ways to increase city competitiveness through arts and culture. As cities compete to attract people and money, they put more emphasis on arts and culture to improve their image. However, findings from a review of literature indicate that the current cultural policy research and planning do not appear to adequately address the needs of a city to be competitive over other region by using arts and culture.

Therefore, this dissertation suggests a new agenda for cultural policy research and planning. In its drive to increase city competitiveness through arts and culture, the agenda emphasizes cities’ efforts in creating a favorable environment that enhance the capacity of the cultural ecosystem (cultural capacity) in a city.

Guided by the literature highlighting the role of networks in generating innovation and creativity (Amin & Thrift, 1995; Benz & Furst, 2002; Granovetter, 1985; Giuliani, 2007; Malecki & Tootle, 1996; Parker, 2007; Putnam, 1993), this dissertation uses networks as a proxy for cultural capacity. Since studies of networks are an underdeveloped area in cultural policy research, the second objective of this dissertation is to develop a research tool that translates the network concept into an exploratory study. The concepts and techniques of social network analysis (SNA) are applied.

The third objective of this dissertation is to explore the invisible and intricate
nature of interactions among actors in the cultural ecosystem in a city by using a case study. The case study examines the extent to which actors in a city’s cultural ecosystem interact with one another to exchange information, and the extent to which the information transferred through those interactions contributes to generating innovation and creativity in the cultural ecosystem.

1.3 Research Strategy

The brief overview of the existing cultural policy studies in Section 1.1 reveals problems in cultural policy research. In the context of the growing competition among cities, arts and culture have become known as an effective tool for increasing city competitiveness. However, the current cultural policy research does not appear to adequately capture the context within which arts and culture and cities are situated. Since the research relates arts and culture to short-term eye candy, rather than to “economic engine” (A. J. Scott, 2000), it does not provide a foundation for long-term development.

To better address these problems, this dissertation adds a new agenda to cultural policy research that can contribute to the discussion on city competitiveness through arts and culture. A system approach and theories of regional collaboration laid the foundation for this agenda. Drawing on these theories, this study considers the cultural ecosystem as the underlying dynamics that determine the content and quality of arts and culture. It also suggests that, in order to enhance its competitiveness, a city needs to develop a favorable environment that fosters the capacity of the cultural ecosystem (cultural capacity). To operationalize this agenda, this dissertation develops a theoretical and methodological framework that identifies factors that influence the cultural capacity of a city. This framework can help develop effective policy strategies towards city competitiveness.
The theoretical framework of this dissertation attempts to identify factors that can enhance the cultural capacity of a city. The first source for this theoretical framework is the literature on regional innovation capacity. The literature contends that the key for regional development is collaborative synergy resulted from interactions among actors. Scholars of this line of literature argue that the active interactions can foster innovation and creativity in a region through information transfer (Granovetter, 1985; Amin & Thrift, 1995; Putnam, 1993).

The second source is derived from studies on inter-firm networks and networked governance. On the same basis of the theory of regional innovation capacity, these studies specify networks as a key for innovation in the production- and policy support system. In these studies, networks are considered to generating innovation through information transfer that helps problem solving and new idea creation (Ansell, 2000, Benner, 2003; Benz & Furst, 2002; Giuliani, 2007; Mackinnon et al., 2004; Malecki & Tootle, 1996; Parker, 2007; Rantisi, 2002; White, 2002).

Supported by these sources, this dissertation suggests that networks among actors in the cultural ecosystem can enhance the cultural capacity of a city. Due to their intangible nature, networks among actors are difficult to trace with conventional methods. Therefore, this dissertation applies social network analysis (SNA) to its methodological framework.

SNA views a social system as a structure composed of a set of actors in which some actors are “connected by a set of one or more relations” (Knoke & Yang, 2008, p. 8). The focus of SNA is on the structure of the relations among actors and their impact on the outcomes of the social system. Thus, SNA allows us “to trace lateral and vertical
flows of information, identify sources and targets, and detect structural constraints operating on flows of resources” (Wellman & Berkowitz, 1988, p. 26). Since this dissertation examines the cultural capacity of a city, focusing on the flow of information through networks, SNA seems to be an appropriate tool.

Meanwhile, the mere presence of networks does not imply anything important about the cultural capacity of a city. Therefore, this study develops the concept of creative networks as an indicator to assess the cultural capacity of a city. The term creative networks is defined here as informal communication channels among actors in the cultural ecosystem that contribute to promoting the performance of the actors through information transfer that fosters problem solving and new idea creation.

Some network measurements derived from SNA provide exploratory variables to assess the cultural capacity of a city. These variables are used to operationalize the current study’s conception of creative networks. The first set of variables is related to the interconnectivity of networks. It examines the extent to which information is actively transferred within a network. It is comprised of three sub-indicators: density, cliques, and central connectors. The second set of variables explores the quality of information in networks. It examines the extent to which information transferred in a network contributes to problem solving and new idea creation. It is made up of two sub-indicators: diversity and information bases.

Based on the theoretical and methodological framework discussed above, the core of this dissertation is to identify whether there exist creative networks in the cultural ecosystem in a case city. This leads to the following research question: To what extent do actors in a city’s cultural ecosystem interact with one another through networks?
Through network analysis of actors in the *cultural ecosystem*, this study assesses the *cultural capacity* of a city and provides policy recommendations. The case study of the *cultural ecosystem* in Columbus, Ohio is provided.

1.4 Scope of the Study

This dissertation explores interactions among actors in the *cultural ecosystem* through the lens of networks. The term “network” is broadly defined as “a set of actors connected by a set of ties” (Borgatti, 2003, p. 992). Kingsley and Malecki (2004) classify two types of networks on the basis of whether or not the network is governed by contractual agreements. According to them, a “formal network” is one where the participating members have explicitly agreed to a shared objective that requires some level of coordination of actions and resources by agreement, and an “informal network” is bound by mutually reinforcing self-interests among members rather than by an explicit agreement. Owen-Smith and Powell (2004) conceptualize networks as “channels” and “pipelines” (p. 5). The former refers to open communication paths that facilitate information spillovers, and the latter represents closed legal arrangements in which only insiders are allowed access to information (Owen-Smith & Powell, 2004).

Studies of cultural policy to date have mostly paid attention to formal, contractual relationships, especially public-private partnerships for economic development. Whitt (1987) introduces some examples of public-private partnerships that are organized to promote mixed-use downtown development, such as building arts and entertainment districts. Strom’s (2003) case study of major fine arts projects in U.S. cities (New Jersey, Charlotte, Philadelphia, and Seattle) also focuses on partnerships of arts administrators, city officials, and business groups. In the same vein, Bassett’s (1993) case study of
Bristol’s downtown development project emphasizes cross-sectoral participation in the planning process. The main interest of these studies is in analyzing the strategic objective of each party or power structure among actors in a network, rather than interactions among actors that transfer and exchange information.

Some studies on creative industries deal with informal relations among individuals or organizations. These studies demonstrate that information sharing and collective learning process among actors can affect innovative and creative productions. For examples, Coe (2001) discusses positive effects of a small discussion group of independent producers in Vancouver’s film and television industry. May et al. (2001) stresses the role of elite workers in the diffusion of information in the British high-fidelity industry. Following on these studies, this dissertation concentrates on informal, non-contractual networks. In this dissertation, the term “networks” is restricted to informal communication channels among actors that contribute to transferring information that includes facts, opinions, ideas, theories, principles, experience, skills, and intuition related to create arts and cultural products and services, business models for arts and cultural organizations, and policy making and implementation. It closely monitors the flow of information through networks in the cultural ecosystem in a city.

The unit of analysis of this dissertation is networks in the cultural ecosystem in Columbus, Ohio. The data were obtained through a network survey of 55 individuals who were involved in arts and culture in various ways (e.g., individuals who work at non-profit arts organizations, for-profit enterprises, public arts agencies, foundations, city council, etc.). Based on the data, a primary network of the cultural ecosystem in
Columbus was identified. By applying SNA measurements and techniques, two levels of networks (the whole and sub-system) are examined.

1.5 Research Question

The following research question guides this dissertation: To what extent do actors in the cultural ecosystem interact with one another through networks? This question is supplemented by the five sub-questions listed below:

1. How many connections are available among actors?
2. To what extent are actors interconnected?
3. To what extent do actors actively engage in bridging other actors?
4. How diverse are the sectors to which actors belong?
5. To what extent do actors actively engage in solving complex problems?

1.6 Significance of the Study

This dissertation contributes to cultural policy research and planning in the following ways. First, it introduces new theories and methods to cultural policy literature. As Tepper (2002) notes, the current cultural policy research needs “better theories and methods for understanding the context for creativity” that provide insight into working conditions or local infrastructure (institutional ties, communication channels, employment crossover or cross-fertilization) (p. 116). Schoales (2006) also stresses the need for deep knowledge of the cultural sector, especially factors that contribute to promoting creative talent in order to develop effective policy strategies.

From a theoretical perspective, this dissertation is a small contribution to the above-mentioned call by introducing two concepts: cultural capacity and creative networks. Studies of regional collaboration, learning and innovation, inter-organizational
networks, and networked governance provided a theoretical foundation for developing these concepts. The term *cultural capacity* refers to the capacity of the *cultural ecosystem*, which is the underlying dynamics that determine the content and quality of arts and culture. The term *creative networks* is defined here as communication channels among actors in the *cultural ecosystem* that contribute to promoting the performance of the actors through active information transfer that fosters problem solving and new idea creation.

As other knowledge-based goods, innovation is prerequisite for improving the content and quality of arts and culture (Shoales, 2006). Shoales (2006) notes that since innovation is a result of strategies, concepts, or ideas that drive positive change, access to appropriate information is critical for innovation. Meanwhile, innovation-related information is mostly “tacit” so that it is not made explicit in manuals, rather it is transferred and obtained through interactions among people (Lundvall, et al., 2002).

The concept of *creative networks* and *cultural capacity* is based on the above-mentioned idea, suggesting networks as a powerful vehicle for innovation by stimulating the diffusion of tacit information through interactions among its actors. Since the *cultural ecosystem* is a set of interdependent actors, the presence of *creative networks*, in which active interactions among actors stimulate information sharing and transfer, is expected to empower the capacity of the *cultural ecosystem*. Using networks among actors in the *cultural ecosystem* as a proxy for the level of the *cultural capacity* of a city, this dissertation provides a foundation to investigate the understudied area of cultural policy research. The case study of this dissertation built on the above concepts can be instructive to future cultural policy researchers who need a research model applicable to
From a methodological perspective, the use of Social Network Analysis (SNA) in the case study reveals that it is an effective research instrument to study the underlying dynamics of arts and culture. As J. Scott (2000) states, SNA is designed to investigate the uncovered pattern of social relations among actors and to identify the outcome of such relations. While SNA is relatively new to cultural policy research, this dissertation proves that SNA can be an alternative for conventional research methods by making unseen and invisible dimensions of cultural policy research visible and recognizable. The case analysis provided in Chapter 5 shows that SNA is helpful in identifying linkages among actors who are involved in arts and culture, and in capturing meanings behind the linkages.

Second, this dissertation adds the development of the _cultural ecosystem_ to a city’s cultural policy agenda. Drawing on studies of regional development that focus on the role of a rich relationship among actors in stimulating synergy in production and _policy support_, this dissertation suggests that interactions among actors in the _cultural ecosystem_ are critical for improving the content and quality of arts and culture for city competitiveness. Accordingly, this study proposes that cities’ efforts to promote these interactions focus on the formation of a favorable environment that stimulates active information transfer. This new policy agenda could provide an opportunity to change the direction of cultural policy from mass-producing ad-hoc, short-term city-promotion projects to long-term, integrated cultural economic development.

Third, this dissertation contributes to guiding and enriching the cultural policy making process. The introduction of SNA can help policy makers easily identify a gap in
a community. Birk (2005) argues that the use of SNA is helpful to policymakers in two ways: First, it provides quantitative data and visualization that shows a “big picture” of community; second, it allows policymakers to examine data from “multiple viewpoints” (p. 151). Therefore, SNA enables policy makers “who may not have enough time to investigate all potential areas of interest” to better identify community issues and problems and to make more strategic decisions possible (Birk, 2005, p. 150).

Also, the introduction of informal information channels can broaden policy options. In contrast to the existing formal network programs such as partnerships or joint projects that are mostly based on short-term and top-down relationships, the creation of more casual programs (e.g., adding networking opportunities to regular education or professional training programs) can provide a sustainable environment that fosters active information exchange.

Fourth, this dissertation contributes to helping people who are involved in arts and culture to find ways to promote their performance. Through the literature review and case analysis of this dissertation, networks are considered as effective instruments to help access innovation-related information that is difficult to obtain without help from others. For actors in the cultural ecosystem who are introverted in their information-seeking activities, this study can be a breakthrough that makes them recognize the importance of networks and encourages them to be connected and gain exclusive benefits from network membership.
CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter sets the stage for this dissertation by introducing existing studies regarding city competitiveness, the economic impact of arts and culture, and regional collaboration. Section 2.2 reviews studies on city competitiveness, especially the determinants of city competitiveness to explain the changing environment of cultural policy. As the “creative class” (Florida, 2002) emerges as a key to economic success, cities are forced to compete with other cities to attract the creative class. Since members of the creative class place greater emphasis on the quality of their living environment, the attractiveness of a city has become an important issue for city policy makers. Accordingly, arts and culture have recently drawn increased interest due to their impact on city image and attractiveness. In this context, the focus of cultural policy research and planning has shifted from philanthropic giving to non-profit arts organizations to investment on cultural facilities or creative industries.

Section 2.3 discusses the current trend of cultural policy research and planning with specific regard to the economic impact of arts and culture. Along with the growing interest in arts and culture as a determinant of city competitiveness, situating arts and culture alongside economic development is now prevailing in city policy discussions. In this respect, the section introduces two major topics in studies of the economic impact of
arts and culture. A review of the literature on urban amenities and creative industries is provided. While both urban regeneration and creative industries studies recognize arts and culture as a source for a city’s economy by influencing city competitiveness, urban amenities studies focus on instant events that can bring immediate return, and creative industries studies emphasize a long-term perspective.

Section 2.4 introduces studies of regional economic development that focus on regional collaboration. Three related theories—innovative milieus, learning regions, and regional innovation systems—are summarized. Scholars of these theories argue that a rich relationship among actors from different sectors of a region can foster innovation and creativity that eventually lead to economic success in a region. They suggest that the creation of an innovative milieu that encourages interactions among economic actors should be a high priority in economic development policy prescriptions.

Drawing on the findings of these studies, this chapter concludes with suggestions for a new agenda for cultural policy research and planning. This new agenda emphasizes the need for a better understanding of the underlying dynamics of arts and culture. It also highlights cities’ efforts towards building a favorable environment that can strengthen these dynamics.

2.2 City Competitiveness

With the rise of the knowledge economy, where the economic success of a region is largely dependent on its pool of human resources, the competition among cities to attract the attention of talented people has been dramatically increased. Numerous city rankings have been released and been used as an influential reference for businesses and individuals planning to relocate. City and regional authorities also have paid attention to
these city rankings to identify the relative standing of their localities. Accordingly, devising new urban policies to move up their rank has become a hot issue. The competition among cities is also one of the major interests of scholars in different fields. Their main concern is about why some regions are considered to be more competitive than others. While the term “competitiveness” is a relative concept, the key point to measure competitiveness is the ability to “[attract] the attention of capital” (Rogerson, 1999, p. 969). For example, when applied to individual firms, competitiveness refers to “commercial performance or the ability to provide sufficient returns on capital to attract investment” (Begg, 2002, p. 135); when applied to cities or countries, competitiveness involves the “urban conditions” that successfully attract a creative workforce (Rogerson, 1999).

Many scholars have attempted to identify factors that influence competitiveness of firms, industries, or nations. Their attempts have affected in the direction of the recent policy making and implementation. Among many attempts, Porter’s (1990) book, *The Competitive Advantage of Nations*, is important to note because it provided basic framework for measuring competitiveness.

Porter (1990) argues that for economic success, a region needs to achieve “competitive advantage” over other regions. For Porter (1990), the key feature of competitive advantage is to attract and retain two major economic assets—human and financial capital. Through the examination of firms located in specific regions that maintain larger market share, he asserts that the underlying condition of a firm’s location has a positive impact on competitive advantage of a region. According to him, those regions provide a favorable condition that can promote productivity of firms. He states
that the local business condition is important not only because it promotes the performance of the current businesses, but also because it attracts human and financial capital by affecting the relocation decision of firms.

Porter’s (1990) argument provides a new breakthrough in policy studies by suggesting a new direction. His interest in the role of overall environment in promoting a firm’s productivity draws other scholars’ attention. Following Porter’s study, there have been several attempts to identify the determinants of the competitiveness of cities focusing on local business conditions. For example, Deas and Giordano (2002) conceptualize the process of the competitiveness as an outcome of a set of assets in different contexts, such as economic (e.g., inter alia, the skills and qualifications of residents), policy (e.g., institutions, policy initiatives), environmental (e.g., quality and quantity of sites, infrastructure, and other physical assets), and social (e.g., the cohesiveness of social relations). (Deas and Giordano, p.193). In the same vein, Kresl (1995) develops the following urban competitiveness formula that includes economic* and strategic** determinants:

*Economic determinants = factors of production + infrastructure + location + economic structure+ urban amenities

**Strategic determinants = governmental effectiveness + urban strategy + public-private sector cooperation + institutional flexibility

While Porter (1990) focuses on the presence of a favorable business environment that influences performance of individual firms, Kresl (1995) extends the study focus to the role of government in developing such environment. Highlighting “strategic”
determinants, Kresl (1995) articulates the importance of more active involvement of governance in the process of policy making and implementation. He argues that “the individual city’s government and private sector entities can do a great deal to enhance that city’s competitiveness and to achieve the most desirable economic future possible” (Kresl, 1995, p.66). From the perspective of cultural policy, Kresl’s study is worth noting in that it includes urban amenities in the list of determinants of city competitiveness. Based on the assumption that cities that provide a comfortable living environment can attract the attention of firms and their employees, Kresl (1995) asserts the need of investment in urban amenities for their economic future.


Table 2.1 presents the list of factors used in the conceptualization of quality of life in previous studies. While there has been no consensus on the definition of quality of life, the list in this table illustrates that “locational and place-based characteristics” recognized as “the personal satisfaction and happiness” form the basis of quality of life (Rogerson, pp. 977-979). What is evident in the list of quality of life factors shown in this table, something related to arts and culture is often found in the criteria. The list contains three arts and culture related factors: “lifestyle opportunities”, “recreation”, and “arts/cultural diversity”. This list confirms that arts and culture are one of the important
determinants of city competitiveness due to their impact on creating a vital living environment.

The link between city competitiveness and quality of life factors is supported by empirical research. Florida’s (2002) book, The Rise of Creative Class, plays a leading role in placing the priority of city policy on enhancing the quality of life in cities. The term “creative class” refers to a group of people “whose job is to create meaningful new forms” (Florida, 2002, p. 48). As Florida (2002) argues, the key to success in today’s economy is to attract the creative class, and the best strategy for cities is to have “a world class people climate” (p. 293) such as urban amenities or a vibrant street culture. Along with Florida, many scholars including Begg (2002), Landry (2003), and Markusen (1996) emphasize the attractiveness of cities at the core of the city policy agenda. Consequently, catchphrases like “cool city”, “livable place”, or “vital cultural community” have become ubiquitous in cities’ development plans.

The above discussion is closely related to the changing paradigm in cultural policy. The growing interest in city competitiveness has motivated city policy makers to make their location attractive to human and financial capital. In this respect, arts and culture, perceived as improving a city’s image, has become a significant promotional tool of a city (Rogerson, 1999). Accordingly, there is an increasing need for a particular cultural policy frame to address this change.

The following section investigates how arts and culture are positioned in city policy through a review of literature focusing on the economic impact of arts and culture. It also examines whether the current cultural policy research focus adequately addresses
the demands of cities as well as those of the cultural sector. This line of literature stresses people-attracting effects of arts and culture that affect city competitiveness. In this regard, arts and culture highlighted as an important element of a city’s economic development.
Table 2.1: Attributes of quality of life: Key city ratings (Rogerson, 1999, p.198)

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<td>Food costs/Cost of living</td>
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<td>Political involvement</td>
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<td>Wages</td>
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Table 2.1: Attributes of quality of life: Key city ratings (Rogerson, 1999, p.198)
2.3 The Economic Impact of Arts and Culture

As cities consider arts and culture as one of the essential ingredients for city competitiveness, situating projects related to arts and culture alongside economic development is a worldwide phenomenon (Bianchini, 1993; Florida, 2002; Kresl, 1995; Kong, 2000). This phenomenon provided a new breakthrough not only for cities striving to compete in global markets, but also for the cultural sector seeking to improve its capacity. With this in mind, this section explores studies on the economic impact of arts and culture that mainly concern how arts and culture can be used as sources for a city’s economy. This section helps examine whether the current cultural policy studies adequately provide knowledge that is needed to understand the demands of cities and to guide better cultural policy making and implementation.

Recently, a number of studies have been carried out with specific attention to the role of arts and culture in enhancing the competitiveness of a city. Two major research topics are often found under this discussion: (1) city promotion through urban amenities, and (2) mapping creative industries. While both discussions are related to culture-led city competitiveness that further lead to the economic growth of a city, the former focuses on the consumption side of arts and culture, while the latter is concerned with the production side.

The first topic emphasizes a city’s physical transformation through arts and culture. Scholars including Bianchini (1993), Florida (2002), Kong (2000), Landry and Wood (2003), and Strom (2003; 1999) highlight the potential of arts and culture as a marketing tool for cities to attract labor and investment. Policy recommendations from these scholars are mainly about cities’ physical transformation through arts and culture.
Large-scale projects such as cultural venues and districts, street markets, shopping and entertainment centers, and public art installations have been suggested as a new vision for the economic growth of cities.

Kong (2000) argues that incorporating arts and cultural projects into city’s economic development efforts is a global trend and categorizes these efforts into four types: (1) establishing infrastructure for arts and cultural production, such as art studios, workshops, marketing and support organizations; (2) building flagship arts and cultural facilities such as a museum or a performing arts center downtown, aiming at increasing tourism; (3) commissioning and installing public art and remodeling urban public spaces; and (4) encouraging partnership between business and public sector agencies. She concludes that these projects have a positive impact on luring tourists, business headquarters, and talented professionals to cities (Kong, 2000).

Brooks and Kushner (2001) discuss that one of the most visible trends in urban development in the last decades was building cultural districts. According to them, ninety cities in the U.S. have recently built, or have a plan to build, a formal cultural district (Brooks and Kushner, 2001). Brooks and Kushner (2001) argue that while these cultural districts provide a small amount of direct economic return, they contribute to a city’s economy by attracting professionals and business headquarters.

Strom (2002) shows that since 1985, seventy-one major performing arts centers and museums have been established in 65 U.S. cities. She stresses that as an “explicit part of a city’s economic revitalization program”, these facilities meet the quality-of-life requirement of the current and future residents and businesses (Strom, 2002, p. 5). In the same vein, Strom’s (2003) case study on major fine arts projects in four U.S. cities—
Seattle, Philadelphia, New Jersey, and Charlotte—illustrates that the recent downtown revitalizing projects using arts and cultural facilities are an “appealing package for economic development” (p. 253).

In addition to studies on cultural facility building projects, Strom (2003) highlights a variety of arts and cultural activities as a part of city promotion. According to her, in 65 U.S. cities, 87% of the websites of public and quasi-public development offices, such as the Chamber of Commerce and business promotion organizations, present local arts and cultural information, while 39% feature arts and culture prominently (Strom, 2003). She argues that these examples show that arts and culture have become a dominating topic in conversations on cities’ economic development.

Most scholars give a good grade to the current urban generation projects by using arts and culture. Garcia (2003) argues that most projects to date show that arts and culture can be an effective marketing tool by successfully attracting media attention and external visitors. Florida (2002) asserts that cities that are successful in the knowledge economy are also known to have a vibrant arts and culture scene. Strom’s (2003) argues that urban amenity strategies can contribute to improving a city image and attractiveness in a short time period.

However, these projects also show a negative side effect. Although the original aim of urban regeneration is known to develop a city’s identity and unique image, it could reproduce the same single image in cities everywhere and could lead to “placelessness” (Evans, 2003, p. 421). For example, Garcia’s (2003) examination of three major cultural events in Europe in the late 1990s and the early 2000s proves that most urban regeneration processes do not provide a proper basis for local representation.
As Garcia (2003) points out, “while these events provided an opportunity for urban regeneration at a symbolic and a physical level, they failed to act as a platform for representing local cultures” (p. 108).

The Guggenheim Museum in Bilbao, Spain is another example of the negative side effect of urban regeneration. Established in 1997, the Guggenheim was highlighted due to a combination of stunning architecture and a big name of collection, and successful economic returns to the city; however, critics call this as “McGuggenization,” and blame that the museum gave up its real authenticity for the sake of tourist consumption (McNeill, 2000, p. 474). This case calls attention to the need to critically examine the current cultural policy, especially costly arts and cultural projects that aim to reshape the entire image of a city. As Bianchini (1990) states, it is necessary to consider whether “what’s good for business is good for the city” (as cited in Garcia, 2003, p. 115).

In sum, urban amenities literature highlights the role of arts and culture in beautifying a city’s living environment. Due to their people-attracting effects arts and culture are considered as one of the important determinants of city competitiveness. However, in this line of literature, arts and culture appear to be regarded as a short-term eye candy to attract people and money, rather than as a serious target for long-term development. Placing too much emphasis on some successful cities and their immediate effects, urban amenities literature seems to drive cities to make short-term, discrete projects. It does not necessarily contribute to a city’s long-term cultural economic development.

Another topic that has been recently highlighted in the discussion of the economic impact of arts and culture is mapping creative industries. The term “creative industries”
refers to industries “which have their origin in individual creativity, skill and talent, and which have a potential for wealth and job creation through the generation and exploitation of intellectual property” (Sasaki, 2004, p. 9). Studies of creative industries focus on identifying the potential of creative industries to a city’s economy and developing long-term development strategies for the industries. This is the most distinctive aspect of creative industries studies that are different from that of urban regeneration studies that pursue maximizing a short-term eye-catching effect for place promotion.

Since the main objective of creative industries studies is identifying the industries’ development potential, a series of attempts have been made to identify the number of individuals and businesses in creative industries and the revenue from creative cultural products. For example, Creative Industries 2005 (Americans for the Arts, 2005) provides the number of employees working in creative industries in U.S. cities. Markusen’s Artistic Dividend (2002) highlights the positive relationship between the non-profit artists’ population and economic growth in U.S. cities. Some recent studies, such as Creative Community Index (Cultural Initiative Silicon Valley, 2005), Cultural Vitality in Communities (Urban Institute, 2006), and The Creative Vitality Index (Herbert Research, 2006), also provide data on the status of creative industries in U.S. cities.

In contrast to urban amenities literature, creative industries literature views arts and culture as an independent actor of a city’s economy and builds a foundation for long-term investment for creative industries. However, selective investment in some promising industries can result in a divide between “old” and “new” industries in the same cultural sector. Moreover, since most of the literature simply compiles existing
data and presents a fact sheet of current creative industries, it does not provide any analytical frameworks or policy models.

Based on the literature review provided above, this dissertation suggests that it is necessary to propose a new agenda that broadens the scope of cultural policy research and planning to better understand the field and make better policy recommendations. To do this, it is necessary to take a long-term, process-related, and integrated approach dedicated to promoting the development potential of arts and culture. In this respect, this dissertation proposes to identify the underlying dynamics that influences the content- and quality of arts and culture and to find ways to strengthen those dynamics.

Findings of the review of literature demonstrate that the current cultural policy research is limited to a simple input-output analysis. Since most studies rely on analyzing a single event and providing recommendations for immediate change, it is difficult to find a pro-active research model that helps support the dynamics of arts and culture. Therefore, the following section introduces studies of regional economic development focusing on regional collaboration. These studies spotlight the importance of environment in fostering innovation of a region. These studies help find an alternative way to understand arts and culture in cities and to develop more long-term strategic policy frameworks.

2.4 Regional Collaboration

This section reviews recent studies on regional economic development that focus on regional collaboration. These studies emphasize “the importance of socially embedded relationships for creating a supportive environment” to promote economic
success of a region (Fromhold-Eisebith, 2005, p. 166). The findings from these studies offer helpful insight into developing a new agenda for cultural policy research.

The “cool city syndrome” in cities, emerging from the recent city competition for creative class workers, marks the turning point in cultural policy research and planning. Due to its impact on city image and attractiveness, urban development through arts and culture has become one of the main interests of city policy makers. To some extent, the recent urban economic development policy specially building urban amenities seems to address the current challenge that cities face—competition for human and economic capital. According to the literature provided in Section 2.3, several flagship arts and cultural projects successfully improved their city image and drew instant attention to their cities. However, whether it provides a reliable base for a city’s long-term cultural economic development is questionable. With the exception of a few successful stories, the current popular city makeover projects seem to be short-term eye candy.

In this respect, this dissertation attempts to provide a new direction for cultural policy research that can contribute to city competitiveness and cities’ economic future. The first step of this attempt begins with exploring existing studies in relative fields to find a model approach that is applicable to cultural policy studies. A series of theories highlighting the role of relationships among actors in a region’s economic success are introduced in this section.

Before beginning the discussion of those theories, it would be helpful to briefly explain the idea of innovation through information transfer and learning, because scholars of regional collaboration consider innovation to be a trigger of economic development. Benner (2003) provides the definition of learning and innovation in the regional
economic development context. The term “innovation” refers to new products and services, new technological capacities, and new ways of organizing production processes (Benner, 2003).

Based on his definition, Figure 2.1 illustrates how innovation is generated through learning and information transfer. The term “learning” is defined as the process by which firms, regions, industries, and countries obtain information through various communication channels and use this information (Benner, 2003). In this process, facts, opinions, ideas, theories, principles, and intuition are transformed to skills, know-how and expertise. These products of learning—skills, know-how and expertise—contribute to fostering innovation by helping problem solving and the creation of new products.
Discussions on innovation are often found in policy studies focusing on the high-tech sector, while innovation through information exchange and learning is still an under-explored topic in cultural policy studies. However, the idea of innovation can be applied to cultural policy because innovation does not necessarily need to involve the creation of something “entirely” new technology, but is more related to changing one’s way of thinking for better results and can take place at all levels of society (Benner, 2003).

Schoales’s (2006) study on “alpha clusters” supports this argument by drawing attention to the creative and innovative potential of the cultural sector, and the need for appropriate policy action to support the potential. Alpha clusters include “cultural industries, such as the media, motion pictures, and performing arts or others with highly artistic elements that boost a remarkable product innovation” (Schoales, 2006, p. 163).

Schoales (2006) believes that alpha clusters are creative and innovative in nature because: (1) there is such an emphasis on originality and uniqueness. A reproduction of a work of art or mass-produced copies of original designer fashions, for example, have less value than the originals, and (2) firms are successful only if they can continually and quickly offer new products because of rapidly changing circumstances and tastes. While high-tech clusters can exist with a single innovation because of their patentable intellectual property, alpha clusters are “forever young,” since they continue to produce creative products at a fast pace (Schoales, p. 175). This implies that innovation is equally important topic in the cultural sector as in the high-tech sector. Furthermore, identifying an appropriate approach to foster learning and innovation in the process of creating arts and culture would be a meaningful attempt for the cultural economic development of cities.
As innovation emerges as the key to economic success in the knowledge economy, a group of scholars highlight collaborative relationships among economic actors. A series of different but related theories such as industrial districts, innovative or creative milieux, learning regions, and regional innovation systems are introduced.


Camagni (2002) defines an “innovative milieu” as “a complex network of mainly informal social relationships in a limited geographical area” (p. 3). Scholars of the innovative milieu focus on interactions between economic actors, for example, firms, training facilities, research institutions, and school systems (Benz & Furst, 2002; Camagni, 2002; 1991, Maillat, 1998). Such interactions are crucial sources of learning and innovation, as they encourage “a sense of belonging that enhances the local innovative capability through collective learning processes” (Camagni, 2002, p. 3).

The collective learning process that encourages knowledge and innovation transfer is the main character of what Landry (2000) calls a “creative milieu.” For Landry, a creative milieu is “a physical setting where a critical mass of entrepreneurs, intellectuals, social activists, artists, administrators, power brokers, or students can operate in an open-minded, cosmopolitan context and where face-to-face interaction creates new ideas, artifacts, products, services and institutions and as a consequence
contributes to economic success” (p. 133). “Hard infrastructure” (e.g., research institutes, educational establishments, cultural facilities, and other meeting places) and “soft infrastructure” (e.g., the system of associational structures and social networks, connections and human interactions) constitute the creative milieu and stimulate a flow of ideas and inventions (Landry, 2000, p. 133).

By the same token, a “regional innovation system” is also characterized as the interaction and functional relationships between firms and support institutions (Keeble et al., 1999). A regional innovation system is composed of universities, research institutes, private business associations, the chamber of commerce, training and promotion agencies, government departments, and financial infrastructure (Cooke et al., 1997). The principal goal of a regional innovation system is to increase “untraded interdependencies,” that is, “the internal dynamic of the social structure and the informal flows of knowledge between different parties generating the bulk of territorialized externalities” (Doloreux, 2004, p. 483).

A “learning region” is a “particular structured combination of institutions strategically focused on technological support, learning and economic development” (Pratt, 1997, p. 128). All three concepts—innovative (or creative) milieu, learning regions, and regional innovation systems—view learning and innovation as the result of interactions among regional actors, but innovative milieu focuses on “heterogeneous networks” among firms and organizations related to production (Fromhold-Eisebith, 2005, p. 171). In contrast, regional innovation systems and learning regions place more emphasis on a “homogenous community” (Fromhold-Eisebith, 2005, p. 171) of institutions, such as governments, training organizations, development agencies, and
universities involved with support for production (Keeble et al., 1999). While the concept of innovative milieux focus on exchanging new ideas with regard to projects or joint activities, learning regions and regional innovative systems highlight shared social and cultural values among actors, aiming to bring about a sustainable change in governance for the region.

Although their key points are slightly different, these theories demonstrate the importance of environmental condition that fosters innovation in a given context through collaborative learning process. These theories provide helpful insight into developing a new agenda in cultural policy studies. Supported by the arguments of the regional collaboration scholars discussed above, this dissertation proposes that the priority of cultural policy research and planning be to develop a milieu that supports the underlying dynamics of arts and culture to enhance city competitiveness.

The perspective of this dissertation is different from that of the existing economic impact of arts studies, especially urban amenities studies. The urban amenities perspective focuses on hard infrastructure, that is, building cultural facilities based on short-term, discrete arts and cultural projects, whereas this dissertation emphasizes soft infrastructure, that is, creating a favorable milieu that stimulates long-term mobilization of arts and cultural resources. Based on this perspective, the following section develops a conceptual framework for this dissertation. The framework allows for understanding factors that can strengthen the underlying dynamics of arts and culture.
CHAPTER 3

CONCEPTUAL FRAMEWORK

3.1 Introduction

Based on a review of the literature on city competitiveness, economic impact of arts, and regional collaboration, Chapter 2 provided suggestions for the direction that cultural policy research and planning can take. The literature asserts that in the context of the growing competition among cities, the role of arts and culture has become significant because they can attract human and financial capital, two important assets of today’s economy. The chapter concluded that in order to increase the competitiveness of a city through arts and culture, it is necessary to have a better understanding of the underlying dynamics that influence the content and quality of arts and culture. The chapter also emphasized the role of cities in creating a favorable milieu that fosters the dynamics of arts and culture.

This chapter develops a conceptual framework to better understand the factors that influence city competitiveness through arts and culture. To do this, Section 3.2 focuses on identifying the underlying dynamics of arts and culture. By using a system approach, this section conceptualizes these dynamics as the cultural ecosystem. Since the cultural ecosystem is a set of interacting actors engaged in arts and culture, its performance has a critical impact on the content and quality of arts and culture. In this respect, this dissertation suggests that in order to increase the competitiveness of a city,
cities need to focus on enhancing the capacity of the *cultural ecosystem*, that is referred to in this dissertation as *cultural capacity*.

Section 3.3 discusses elements that can affect the level of *cultural capacity*. Three interrelated theories—embeddedness, institutional thickness, and social capital—provide a theoretical foundation. These theories focus on the relationships among firms, government agencies, and other institutions. Scholars of these theories argue that a rich relationship among actors can stimulate the innovative and creative power of actors that lead to better performance (Amin & Thrift, 2005; Benz, 2002; Camagni, 1991; Markusen, 2006; Maskell & Malmberg, 1999; Putnam, 1993; White, 2002).

The theories of embeddedness and institutional thickness allow for explaining the distinctive qualities of *cultural capacity*. Both theories emphasize the role of interactions among actors in a given region. Collaborative relationships among actors in a region foster information transfer and sharing that stimulate innovation, which is the key to the region’s economic success. While embeddedness theory focuses on actors in the production system, institutional thickness theory deals with actors related to the policy system in a region. The theory of social capital is a driving force as well as an ideal resultant of these two theories. It allows for the examination of synergy—in this case, innovation through information transfer—which results from collaborative relationships. Supported by these theories, the section concludes that interactions among actors who are involved in arts and culture are required to enhance the *cultural capacity* of a city.

To integrate the concept of *cultural capacity* into practical applications, Section 3.4 discusses a network perspective as a lens to understand the *cultural capacity* of a city. The section introduces theories of inter-firm networks and networked governance.
Supported by these theories, this dissertation proposes to use networks among actors in the *cultural ecosystem* as a proxy to the *cultural capacity* of a city. However, the mere presence of network does not explain the factors that influence the *cultural capacity* of a city. Thus, this chapter introduces the concept of *creative networks* in which actors in the *cultural ecosystem* actively interact with one another so as to exchange valuable information.

Section 3.5 discusses a research framework to integrate these concepts into the case study. To investigate the nature of networks in the *cultural ecosystem*, this dissertation uses social network analysis (SNA). The section provides a brief overview of SNA and SNA measurements.

### 3.2 Cultural Ecosystem

As discussed in the previous chapter, to address problems in the current cultural policy research, it is necessary to take a long-term, process-related, and integrated approach dedicated to promoting the development potential of arts and culture. In this respect, this study attempts to identify the underlying dynamics of arts and culture and the ways to support those dynamics. A system approach provides insight into this process.

In their study of the cultural dynamics, Barry and colleagues (2003) assert, “arts and culture in America constitute a unique ecosystem whose features have been shaped, and continue to evolve, through the confluence of a wide range of influences” (p. 1). Drawing on their approach, this dissertation introduces the concept of the *cultural ecosystem*. The *cultural ecosystem* is defined here as a *set of individuals and organizations engaged in the creation, production, and distribution of* and support for
cultural products, services, and policies that can be shaped and evolved through environmental (economic, social, and cultural) factors.

The cultural ecosystem is a product of interdependent actors and their activities together with the environment on which they depend. Therefore, it has a critical impact on the content of quality of arts and culture. In this regard, this dissertation views the cultural ecosystem as the underlying dynamics of arts and culture, and attempts to identify factors that enhance the capacity of the cultural ecosystem, which is referred to in this dissertation as cultural capacity.

To better understand the nature and function of the cultural ecosystem, this study uses Laumann and Pappi (1976)’s system model. In their study of community elite groups, Laumann and Pappi (1976) view the community as an “open system” of inputs-throughputs-outputs (p. 18). Based on their model, this study conceptualizes the cultural ecosystem as a joint process of inputs-throughputs-outputs as illustrated in Figure 3.1. In the cultural ecosystem, inputs include resources such as artistic expertise, policy authority, and money, and outputs include arts and cultural products, services, and policies. Throughputs include activities that put together inputs and create outputs (e.g., arts and cultural production and policy decision-making processes).
For the purpose of this dissertation, of these three elements of the *cultural ecosystem*, throughputs are highlighted. Since throughputs are related to activities that mobilize resources and to create arts and cultural products, services and policies, a close examination of throughputs can be an excellent source for identifying factors that affect the content and quality of arts and culture. Considering that the focus of recent cultural policy studies to date is limited to the input (investment in urban amenities)-output (economic outcome visitor numbers, hotel bed taxes) analysis, the examination of throughputs may be a meaningful contribution to cultural policy research.

Analyzing throughputs, however, has been a challenge to scholars due to the lack of “hard” data (Laumann & Pappi, 1976, p. 18). Laumann and Pappi (1976) call throughputs as an “unobservable black box”, because unlike the analysis of inputs and
outputs that focuses on complete individual events, the analysis of throughputs deals with ongoing interrelated activities in a system. To address this challenge, the examination of actors, with specific attention to their behavior pattern, has been suggested as a key to understand this black box (Wellman & Berkowitz, 1988). According to Wellman and Berkowitz (1988), scholars who examine the relationship between social structures and collective action consider actors and their activities in social systems as a compelling means “to prove the underlying ‘deep structures’ connecting and cleaving social systems” (p. 23). Following their argument, this dissertation uses actors and their activities in the cultural ecosystem as the unit of analysis.

In sum, this study views the cultural ecosystem as the underlying dynamics that influence the content and quality of arts and culture. Accordingly, in order to increase the competitiveness of a city through using arts and culture, it is necessary to improve the capacity of the cultural ecosystem, which is referred to in this dissertation as cultural capacity. Since the cultural ecosystem is a set of interrelated actors, the efforts to increase cultural capacity needs to focus on factors that influence the performance of its actors.

3.3 Cultural Capacity

This section aims to conceptualize cultural capacity. Three related theories regarding regional innovation capacity are introduced: embeddedness, institutional thickness, and social capital. These theories help uncover elements that influence the cultural capacity of a city.

Theories of embeddedness and institutional thickness both focus on the potential of “socially embedded relationships between local organizations” that generate synergy
for economic success of a region (Fromhold-Eisebith, 2004, p. 748). The term “embeddedness” is defined as “the forms and processes by which meaning is constructed, trust is built (or destroyed), [and] knowledge is exchanged” (Sydow & Staber, 2002, p. 218). While many scholars use the term in different context, it usually refers to the ways in which firms are connected to their locality (Crewe, 1996; Dicken et al., 1994; Granovetter, 1985; Henderson et al., 2002). These scholars highlight high level of contacts between local firms that promote better performance and foster innovative products.

While the theory of embeddedness guides our understanding of the inter-firm relationship involved in the production system of goods and services, the theory of institutional thickness is related to a particular policy support system for the production system in a region. Amin and Thrift (1994) define the term “institutional thickness” as an “integrated web of supportive organizations and institutions including firms, financial institutions, local chambers of commerce, training agencies, trade associations, local authorities, development agencies, innovation centers, clerical bodies, unions, government agencies providing premises, infrastructure, business service organizations, marketing boards, and so on” (p. 103). The primary feature of institutional thickness is “collective action and strategic efforts based on trust and mutual awareness necessary to achieve intended goals of a region” (Coulson & Ferrario, 2007, p. 595).

In sum, the core subject of embeddedness and institutional thickness is interactions among business, government, and other institutions existing in a region. Scholars of these theories argue that for economic success, cities’ efforts must be invested in developing a milieu that fosters synergy resulted from interactions and among
economic actors (Amin & Thrift, 1995; Cooke & Morgan, 1998; Granovetter, 1985; A. Scott, 1995; Storper, 1995). The synergy stimulates and maximizes the potential for innovation and eventually achieves the city’s intended goal (Amin & Thrift, 1995).

From a cultural policy perspective, embeddedness and institutional thickness can be translated into two basic mechanisms required to enhance the cultural capacity. A collaborative engagement of locally embedded arts and cultural organizations and enterprises, institutions (e.g. universities, foundations), and government agencies can contribute to building a milieu that fosters innovation in the cultural ecosystem.

While embeddedness and institutional thickness are mechanisms that shape cultural capacity, social capital is the engine that powers those mechanisms as well as the ideal resultant of them. Putnam (1993) defines the term “social capital” as:

Features of social organizations such as networks, norms and trust that facilitate co-ordination and cooperation for mutual benefit. Social capital enhances the benefits of investment in physical and human capital and is coming to be seen as a vital ingredient in economic development around the world. (Putnam, 1993, p. 38)

In its simplest definition, social capital refers to an “intangible ‘something’ that exists between individuals and organizations within a community” (Kay, 2006, p. 163). It can be perceived as “any social arrangement that allowed individuals to increase their capacity to achieve their goals” (White, 2002, p. 256). Social capital has two different dimensions: structural and relational (Anderson & Jack, 2002). According to Granovetter (1992), the structural dimension refers to “the sum of relationships within a social structure,” and the relational dimension indicates “direct relationships of the entrepreneur to others” (cited in Anderson & Jack, 2002, p. 197). Anderson and Jack (2002) characterize these dimensions as the “glue” (which bonds the whole community together)
and “lubricant” (which eases and energizes each linkage among individuals or organizations) (p. 193). White (2002) explains that the structural social capital represents trust and obligations; and relational social capital features the exchange of information or resources among group members. He concludes that these two dimensions of social capital enable us to analyze different types of collective actions at different social levels, including firms, organizations, government agencies, and institutions. Along the same vein, Putnam (1993) divides social capital into two categories: bonding and bridging social capital. Bonding capital refers to networks within homogeneous groups, while bridging capital refers to networks that encompass across different groups. In sum, the main feature of social capital is trust and engagement that facilitate interactions among actors from different sectors (Putnam, 1993).

Drawing on the discussion above, this dissertation attempts to integrate these theories into construction of the concept of cultural capacity. The theory of embeddedness allows for understanding the behavior of individuals who are involved in the production of arts and culture; the theory of institutional thickness allows for understanding the behavior of individuals who are involved in the policy support for the arts and cultural production; and the theory of social capital helps make sense of the underlying force, as well as the ideal outcome of the relationship between these individuals.

3.4 A Network Lens to Cultural Capacity

Theories of regional innovation capacity introduced in the previous section emphasize the role of interactions among actors in stimulating innovation and creativity in community (Amin & Thrift, 1995; Camagni, 1991; Maillat, 1998; Scott, 1995). Based
on these theories, this dissertation considers interactions among actors in the cultural ecosystem as a key factor that can enhance the cultural capacity of a city. However, due to its intangible nature, interactions among actors are difficult to measure. Therefore, this dissertation use networks as a lens to understand interactions among actors in the cultural ecosystem.

The term “network” is basically defined as “a set of actors connected by a set of ties” (Borgatti, 2003, p. 992). While numerous definitions of networks in different contexts are available, networks are referred to as informal communication channels in this study. Since networks have been an underdeveloped topic in cultural policy research, this section introduces studies of inter-firm networks and networked governance as a reference guide to better understand interactions among actors in the cultural system. These theories emphasize the role of networks in collaborative problem solving and new idea creation through information transfer in the production and the policy support.

3.4.1 Inter-firm Networks

Inter-firm networks refer to “companies that are connected or bound together through some form of sustained interaction, within which there is necessarily a degree of commonality” (Huggins, 2000, p. 112). Scholars of entrepreneurship (Uzzi, 1996), social infrastructure for innovation and economic development in rural areas (Flora & Flora, 1993), and regional innovation systems (Asheim & Cooke, 1999; Maskell & Malmberg, 1999; Morgan & Nauwelaers, 1999) emphasize the importance of networks as an empowerment platform.

For researchers of Small Medium size Enterprises (SMEs), networks are essential instruments that encourage firms’ access to a broader pool of knowledge. Malecki and
Tootle (1996) argue that since SMEs often lack the ability to access information, “the know-why, know-how, know-who, know-when and know-from are critical for entrepreneurial success” (p. 45). Benner (2003) also highlights the importance of active networking between firms to gather information critical to their production.

Some empirical studies support the role of inter-firm networks in increasing firms’ performance. Sommers’s (1998) investigation of network development in rural areas illustrates that networks may help to strengthen existing firms by opening up new markets or providing lower-cost inputs. Malecki and Tootle (1996) extend the research focus to informal networks. For small firms, informal networks such as face-to-face interaction are helpful when searching for advice on issues related to product development or labor (Malecki & Tootle, 1996). These studies show that participation in networks—whether formal or informal—can facilitate the processes of learning among SMEs through information sharing. Meanwhile, successful cases of inter-firm networks are associated not only with an individual firm’s capacity building, but also with economic development of a region (Sommers, 1998; Giuliani, 2007). As Giuliani (2007) asserts, “the presence of local business networks is often regarded as the evidence of the capability of a cluster to promote localized learning both vertically (between clients and suppliers), and horizontally (among rival firms)” (p. 140).

In sum, the main point of studies of inter-firm networks is that networks among firms are one of the prerequisites for economic development. Information transfer through networks can generate learning and innovation in the process of production. The following section introduces studies on networked governance to explain the appropriate model of the policy support system that promotes firms’ performance.
3.4.2 Networked Governance

Basically, the term “governance” refers to “the means by which social co-ordination is achieved” (Lowndes & Skelcher, p. 314). From a policy perspective, “governance” refers to “all kinds of guidance mechanisms which are connected with public policy process” (Stoker, 1998, p. 24). It involves “steering, setting directions, and influencing behavior” to achieve community goals (Parker, 2007, p. 113). It performs a similar function as government, but is not synonymous with government; rather, it is an “operating code” of government (Rhodes, 1996, pp. 652-653).

While governance is not a new term in the discussion of policy decision-making and implementation, its use has grown significantly as the new governance model has been introduced as an alternative to the existing models: hierarchy and market (Borzel, 2002). Powell (1991) calls this new governance model a “network mode of governance” (p. 269). Table 3.1 shows his classification of three different modes of governance.
Interest in this new model of governance has emerged since the 1990s alongside debates on the transition from government to governance in policy-making and implementation (Davies, 2001; Pierre, 1999; Rhodes, 1996). Pierre (1999) explains this transition by “a decline in the capacity of the central state to steer society” (p. 388). Along the same line, Davies (2001) explains the emerging interest in governance by “local government ungovernability” (p. 45). He argues that since the local government has lost its ability to manage all public issues, there is a need for co-operation with a range of private, public, and voluntary organizations through networks. Rhodes (1996) also asserts that due to the growing complexity of policy processes, governments have lost their power to control other actors. In this situation, “self-organizing, inter-organizational networks” challenge the existing government systems and become a new
method to “deliver government” in allocating resources and exercising social control and co-ordination (Rhodes, 1996, p. 652).

Some scholars attempt to characterize this new model of governance (Ansell, 2000; Parker, 2007; Rhodes, 1996). Although the terms used to call this model are different, such as “networked governance” (Parker, 2007), “networked polity” (Ansell, 2000), and “self-organizing networks” (Rhodes, 1996), scholars agree that central to this model are collaborative activities based on networks of public and private actors. Pierre (1999) argues that this governance model occurs when “local authorities, in concert with private interests, seek to enhance collective goals” (p. 374). Stoker (1998) also argues that “a complex set of public-private actors drawn from, but also beyond, local government” constitutes this model of governance (p. 19).

Rhodes (1996) calls this new model of governance “self-organizing networks” that are independent from state regulation. According to him, these self-organizing networks are established by members with the same interests who seek to exchange resources through continuous interactions. Central to Rhodes’s model is its autonomous character. Based on his model, it is possible to develop and implement policies without being controlled by a single government.

Similarly, Ansell’s (2000) “networked polity” model focuses on networks between state agencies and societal associations. Ansell (2000) defines “networked polity” as “decentralized, team-based organizations with strong lateral communication and coordination that cross functional boundaries within and between organizations” (p. 303). Like Rhodes, Ansell (2000) argues that the interdependent and de-centered characteristics of networks need to be applied in local governance. Under the structure of the networked
polity, local government can be strongly embedded in society, and pursue its objectives through networks of societal associations (Ansell, 2000).

Parker (2007) also stresses the need for a specific form of governance distinguished from the traditional single government model. Like other scholars who are interested in networks as a mode of governance, she attempts to adapt the characteristics of networks to local governance. However, different from most scholars who use the terms “governance” and “networks” interchangeably, she points out that all networks do not always serve a governing function (Parker, 2007). According to her, networks are related to “the process of making connection with others through social interaction, business meetings, events, fora and conferences” (p. 118). Networks are considered as a form of governance when they “play a role in steering, setting directions and influencing behavior” (p. 113). Parker (2007) calls this network structure “networked governance” (p.113). It is characterized by networks of public and private actors that are built on trust, mutuality, and shared values (Parker, 2007).

In sum, studies on governance depict that the main actor of policy decision-making and implementation has changed from a single government to governance having a network structure. The core feature of this type of governance is effective problem solving with regard to public issues through networks of a variety of actors. Trust and shared values among actors drive the network members to actively participate in decision-making and implementation to achieve a community’s goals (Bull & Jones, 2006).
3.4.3 Creative Networks and Cultural Capacity

Theories of regional innovative capacity help understand elements of cultural capacity by suggesting interactions among actors based on trust can promote the performance of those actors. However, these theories do not clearly articulate the operational procedures and arrangements are required to explore those interactions in the cultural ecosystem. In this respect, a network perspective helps delineate what happens during the interaction process.

Figure 3.2 presents the determinants of cultural capacity based on the discussion in previous sections. Three theories—embeddedness, institutional thickness, and social capital—provide insight into identifying the prerequisites that enhance the cultural capacity of a city. The main feature underpinning these three theories is ongoing interactions among actors based on trust in the production and policy support system. From a perspective of cultural policy, the theory of embeddedness stresses active interactions among arts and cultural organizations and creative enterprises that are directly related to the production of arts and culture. The theory of institutional thickness highlights a collaborative engagement among public, private, and non-profit sectors as the appropriate structure for the policy support. Finally, the theory of social capital emphasizes trust among actors in the production of and policy support for arts and culture.

Those interactions among actors, what this study calls networks, are considered to be a proxy to cultural capacity in this dissertation. Characterized by unplanned, and non-contractual relationships built on trust among actors embedded within and across the cultural ecosystem, networks can promote the performance of actors in the cultural
ecosystem through exchanging valuable information. Meanwhile, the mere presence of networks does not imply anything important about the cultural capacity of a city. Therefore, this study develops the concept of creative networks as an indicator that assesses the cultural capacity of a city.

Through various channels of relationships, such as friends, business partners, and colleagues, actors in the cultural ecosystem interact with one another and exchange information including facts, opinions, ideas, theories, principles, experience, skills, and intuition related to their field. The information helps problem solving and new idea creation in arts and cultural products and services, business models for arts and cultural organizations, and policy-making and implementation.

The term creative networks is defined here as informal communication channels among actors in the cultural ecosystem that contribute to promoting the performance of the actors through active information transfer that fosters problem solving and new idea creation in arts and cultural products and services, business models for arts and cultural organizations, and policy-making and implementation. Based on this definition, this dissertation examines the presence of creative networks in the cultural ecosystem in order to assess the cultural capacity of a city.

Two dimensions (cultural production-and policy support) of networks in the cultural ecosystem are explored from the perspective of cultural capacity. The cultural production system is composed of individuals who are involved in the production of arts and cultural products and services. The policy support system is composed of individuals who are involved in the process of policy making and implementation. Meanwhile, the cultural ecosystem is a joint effort of individuals from various sectors. Actors of the
whole system are break down into four groups—public, business, arts (for-profit/non-profit), and civic—according to their sectors. The description of each sector is as follows.

- **Public**: Elected public officials or individuals who work in public arts agencies. They participate in cultural policy decision-making such as making key appointments, approving budget allocations, and commissioning research and analysis.

- **Business**: Individuals in private businesses who are interested in setting the community agenda and in providing resources like financial aid to advance arts and culture in community.

- **Arts (non-profit/for-profit)**: Artists and other professionals involved with arts and cultural organizations, arts and cultural festivals and events, arts-oriented businesses, infrastructure and supports.

- **Civic**: Individuals who provide philanthropic funding for arts and cultural organizations and activities or serve on the boards of nonprofit arts and cultural organizations. Individuals who work at non-profit organizations.

In this dissertation, these two levels of networks are assumed to play an important role in promoting performance of the *cultural ecosystem* through information transfer that lead to problem solving and new idea creation. Through the examination of these networks, with a specific emphasis on interconnectivity and quality of information, this study expects to assess the *cultural capacity* of a city and help develop effective policy recommendations. The ideal model of *cultural capacity* is the mix of active inter-personal (organizational) activities toward creative cultural products and services, and
policy support based on networked governance where people with different resources take part in a collaborative action to achieve the community’s goals. The cultural ecosystem is a result of the organic relations between these two sub-systems.

![Diagram](image)

Figure 3.2: Determinants of cultural capacity

3.5 Research Framework

Drawing on the discussion above, this section provides a research framework that can be used in the case study in this dissertation. This framework helps identify problems in the cultural ecosystem in a city and design effective policy interventions. In order to
examine the invisible and intricate structure of the cultural ecosystem, this dissertation applies some measurements used in social network analysis (SNA).

SNA is specially designed to investigate the relational structure in social systems (Wasserman & Faust, 1994). It views social systems as “being comprised of more or less bounded networks rather than rigid categorical groups” (Quatman, 2006, p. 79). By using relationships among actors in a network as the unit of analysis, SNA enables us to examine “how actors are located or embedded in the overall network as well as assess the patterns of relationships among all the actors” (Quatman, 2006, p. 80). Accordingly, SNA allows us “to trace lateral and vertical flows of information, identify sources and targets, and detect structural constraints operating on flows of resources” (Wellman & Berkowitz, 1988, p. 26). In this respect, SNA has been recognized as an appropriate method by scholars studying the innovational capacity of a region (Ter Wal & Boschma, 2008).

Based on the premise that SNA enables us examine the flow of information among actors, this dissertation assumes that it is possible to use SNA measurements as an indicator of creative networks. The analysis of interactions among actors in the cultural ecosystem with those measurements allows for identifying the level of the cultural capacity of a city. From the result of the analysis, cities can identify their problems and provide effective strategies that can enhance their cultural capacity. The following sections discuss SNA measurements that examine whether there exist creative networks in the cultural ecosystem.
3.5.1 Indicators of Creative Networks

*Creative networks* are characterized by two features: interconnectivity and quality of networks. To examine these features, a particular set of SNA measurements are applied. The interconnectivity in a network is related to the extent to which information is actively transferred within a network. It is assessed by the following indicators: *density, cliques,* and *central connectors.* The quality of information in a network is related to the extent to which information transferred in a network contributes to problem solving and new idea creation. It is assessed by *diversity* and *information bases.* These five indicators determine whether networks in the *cultural ecosystem* can affect the performance of actors through active transfer of valuable information. The following subsections describe each indicator.

3.5.1.1 Density

*Density* is the most common measure in SNA that examines “the proportion of members who are tied with a positive relationship” (White, 2002). The *density* of a network is calculated by the number of connections in a network, expressed as a proportion of the maximum possible number of connections: \( l/n(n-1) \) (J. Scott, 2000). A “complete” network is represented as a network graph in which all of the points are linked to one another (J. Scott, 2000). The level of *density* is closely associated with trust among actors in a network. A high *density* score of a network indicates that the network contributes to creating more influential information exchange channels regarding common issues or problems (J. Scott, 2000; White, 2002).
3.5.1.2 Cliques

*Cliques* refer to subcomponents of a network that are “often made up of individuals who are homogeneous in some respect” (Birk, 2005, p. 50). Identifying *cliques* is important because “the presence of subgroups indicates that a network is disconnected because when subgroups exist, not every member of the network is reachable by some pathway” (Wasserman & Faust, 1994). Birk (2005) argues that choices made by members of *cliques* can set them apart from others in the whole network, because they prefer to interact with themselves and choose actors in the same *clique* rather than those outside. Accordingly, the lack of linkages created by *cliques* can make information transfer difficult by cutting off information flow in the whole network (Birk, 2005).

3.5.1.3 Central connectors

*Central connectors* refer to actors who have more connections than others in a network (Birk, 2005). In other words, they are the most popular actors with whom other actors in a network frequently meet and talk. They are characterized to be occupying the central position in terms of local interactions that are formed by “the coexistence of market, social, and institutional relationships, which occur almost routinely in a cluster context” (Giuliani, 2007, p. 150). Due to their intensive “face-to-face contacts,” *central connectors* are traditionally considered to be an important vehicle for exchanging information and resources (Storper and Venables, 2004). However, when actors face more complex problems, they look for people who have more valuable information (information bases) aside from their *central connector* relationships (Ter Wal & Boschma, 2007).
3.5.1.4 Diversity

Vogenbeck (2005) argues that simply knowing the number of network connections does not accurately tell us whether the network increases a potential for capacity in a community. Thus, he adds diversity to examine the quality of information in networks. Diversity observes the distribution of actors in a network in terms of their sectors. Multi-sectoral networks are able to “pull diverse groups and resources together” and “address issues that no group can resolve by itself (Witte et al., 2002, p. 10, cited in Vogenbeck, 2005, p. 221). This dissertation breaks down actors in the cultural ecosystem into four sectors (arts, business, civic and public) and examines the placement of each sector in networks.

3.5.1.5 Information bases

Giuliani (2007) argues that some actors in a network play a leading role in fostering innovation in a region by transferring “innovation-related knowledge, aiming at the solution of complex technical problems” (Giuliani, 2007, p. 144). Drawing on her idea, actors who are recognized to be a key source of advice and to provide better solutions for difficult issues in the cultural ecosystem are referred to as information bases.

Both information bases and central connectors are characterized to be the “most important actors” within a network (Wasserman & Faust, 1994, p. 169). However, they are different in terms of the quality of information they maintain. Unlike central connectors who have the longest contact list on their cell phone, but may not have the expertise to solve complex problems, information bases may not be popular, but they are the ones whom other actors seek out for help and advice when they face challenges.
Therefore, actors who are linked to *information bases* have a greater chance to achieve better performance than others (Giuliani, 2007).

Figure 3.3 demonstrates indicators of *creative networks*. This dissertation suggests that the presence of *creative networks* in the *cultural ecosystem* can enhance the *cultural capacity* of city. This can be made through active interactions among actors that foster valuable information transfer. The information transferred among actors helps problem solving and new creation in the field that further contribute to promoting the performance of actors in the *cultural ecosystem* and eventually increasing the level of *cultural capacity*. Five indicators are used to measure the interconnectivity and quality of networks in the *cultural ecosystem*.
Figure 3.3: Indicators of creative networks
CHAPTER 4

METHODOLOGY

4.1 Introduction

Reviews on extant studies in Chapter 2 suggested a new agenda for cultural policy research. In its drive to increase city competitiveness through arts and culture, the agenda emphasized the importance of a favorable milieu that supports the underlying dynamics (cultural ecosystem) that influence the content and quality of arts and culture in a city. To find the ways to enhance the capacity of the cultural ecosystem (cultural capacity), Chapter 3 provided a conceptual framework suggesting that creative networks among actors in the cultural ecosystem can enhance the cultural capacity of a city.

One of the objectives of this dissertation is to provide an exploratory study that applies this framework to examine networks among actors in the cultural ecosystem in a city. To do so, this dissertation selected Columbus, Ohio as a case study site. Columbus was chosen due to its characteristics as a second-tier city in the United States in terms of arts and cultural assets. Social network analysis (SNA) is used as a research instrument, given its common application in studies that investigate the underlying social factors (Murphy, 2003). SNA helps assess the extent to which actors in a city’s cultural ecosystem interact with one another to exchange information, and the extent to which the information transferred through those interactions contributes to generating innovation and creativity in the cultural ecosystem.
This chapter investigates a systemic way of applying the conceptual framework developed in the previous chapter into practical application. This study develops a three-step case study methodology including sampling, survey, and analysis to examine networks in the cultural ecosystem. The methodological procedure is outlined below:

- Step 1: The case study site and survey subjects were selected. The case city was selected from a group of “second-tier cities” in the United States in terms of their arts and cultural assets. Survey subjects were recruited from a group of individuals who constitute the cultural ecosystem in the selected case city. For the purpose of the dissertation, subjects were identified into two groups: individuals who are part of the cultural production system, and individuals who are part of the policy support system. These two groups of subjects comprised the primary network of the cultural ecosystem in the case city.
- Step 2: Survey questions were sent to subjects selected in Step 1.
- Step 3: Survey results were analyzed by UCINET, a social network analysis program. The network structure and quality of the case city’s cultural ecosystem were examined by using UCINET’s visualization and mathematical tools.

Section 4.2 discusses key concepts and measurements of SNA that have guided the three-step methodology of this study. Section 4.3 demonstrates case selection and data collection processes. Section 4.4 introduces the survey design. Section 4.5 discusses researcher bias.

4.2 Social Network Analysis

This section explains key concepts and measurements of social network analysis (SNA) that are relevant to this dissertation. The term “social networks” refers to “a web
of social relations or resources that surround individuals, groups or organizations and the characteristics of their ties” (White, 2002, p. 261). Unlike other social science methods, SNA is considered to be a promising tool for studies that focus on relationships among people “in terms of knowledge acquisition” (Chan & Liebowitz, 2006, p. 21). According to Chan and Liebowitz (2006), the core feature of SNA is to analyze the “invisible” process of information exchange (p. 21). Therefore, many scholars with special interest in regional collaboration or community decision-making applied SNA as a research instrument (Murphy, 2002).

The central data collection strategy of SNA is to survey participants’ communication partners, for example, asking them to rate the quality of information that they received through their interactions with other people, or rank the importance of people who hold the information, or evaluate their frequency or quality of interactions with those people (Chan & Liebowitz, 2006). Once data are collected, SNA uses the data to provide network maps that visualize a snapshot of interactions and information flows among people that help policy-makers make proactive decisions (Chan & Liebowitz, 2006).

These features of SNA offer helpful insight into this dissertation, because the current study aims to assess a city’s cultural capacity through the examination of the extent to which actors within and across the cultural ecosystem interact with one another to exchange information. The following subsections discuss key features of SNA to illustrate how SNA is applied to assess the cultural capacity of a city.

4.2.1 Data Collection
Two basic elements, actors and relations, comprise social networks (Knoke & Yang, 2008). In social network analysis, any types of “social entities” that involve other entities, for example, individuals, firms, corporate, organizations, or a whole community, are referred to as actors (Wasserman & Faust, 1994, p. 17). A particular group of actors in different social settings, for example, employees in corporations, pupils in schools, civil servants in municipal agencies, and students and professors in universities are common examples of sampling units that are used in social network analysis (Knoke & Yang, 2008).

After choosing a sampling unit, social network researchers decide which relational forms and contents they examine. Relational forms refer to “modes of interaction through which specific contents attain social reality” (Knoke & Yang, 2008, p. 10). Knoke and Yang (2008) identify two basic relational forms: (1) the intensity, frequency, or strength of interaction between pairs of actors; and (2) the direction of relations between both dyad members—null, asymmetric, or mutual choices. Relational contents are associated with types of ties. They are related to “interests, purposes, drives, or motives of individuals in an interaction” (Knoke & Yang, 2008, p. 10). The common examples of relational contents are as follows (Wasserman & Faust, 1994, p. 17):

- Evaluation of one person by another (e.g., expressed friendship, linking, respect)
- Transfers of material resources (e.g., business transactions, lending or borrowing things)
- Association of affiliation (e.g., jointly attending a social event, belonging to the same social club)
- Behavioral interaction (e.g., talking together, sending messages)
In addition to choosing sampling units and relational forms and contents, researchers decide the level of networks they explore. White (2002) introduces two levels of analysis: individual and community levels. The individual level of analysis is called as the “egocentric” network that is composed of one actor (ego) and all other actors (alters) with which ego is connected (Knoke & Yang, 2008, p. 13). The egocentric analysis examines each ego’s linkages to others in terms of the number, intensity, and other characteristics. For instance, White (2002) uses the egocentric network analysis in his case study on HIV-positive men’s immediate contacts and mutual links.

While the egocentric network analysis is a micro level research that is appropriate for the investigation of actors “who are unlikely to have any contact with one another” (Knoke & Yang, 2008, p. 13), the “complete” network analysis is a macro level of analysis that includes “every relation among all N actors to represent and explain an entire network’s structural relations” (Knoke & Yang, 2008, p. 14). In the complete network analysis, researchers focus on actors’ positions and the pattern of ties among actors in the network. For example, studies like “‘friendship’ or ‘pal’ relations among adolescent peers,” or “dominance hierarchies among the world’s cities” choose the complete network as the level of analysis (Knoke & Yang, 2008, p. 14).

As described above, SNA mainly investigates “the structure of relations among actors and the location of individual actors in the network that have important behavioral, perceptual, and attitudinal consequences for the individual units and for the system as a whole” (Knoke & Kulkinski, 1982, p. 13). Since a relation is “not an attribute of one actor, but a joint dyadic property that exist only so long as both actors maintain their association,” (Knoke & Yang, 2008, p. 7) it requires a specific form of data collection
technique. The most common way to gather relational data is using questionnaires (Wasserman & Faust, 1994). Questionnaires usually contain questions about the respondents’ ties to the other actors, for example, respondents are asked to report on who they like, respect, or go to for advice (Wasserman & Faust, 1994).

Knoke and Yang (2008) discuss three types of strategies that use questionnaires for constructing network data: reputational methods, snowball sampling, fixed list selection, and expanding selection. In reputational methods, researchers ask the most knowledgeable informants or experts to nominate a set of actors for their study; in snowball sampling, a small set of network actors are asked to nominate other actors with whom they have a specific kind of relation, and additional actors are asked to nominate others, and the process continues until few or no additional names appear; in fixed list selection, respondents are restricted to report ties involving a set of actors identified a priori by researchers and their informants; in expanding selection, respondents identify as many actors they wish without referring a list of names (Knoke & Yang, 2008, pp. 17-19).

4.2.2 Graphs and matrices

As Laumann and Pappi (1976) argue, “the hallmark of a network analysis is to explain, at least in part, the behavior of network elements and of the system as a whole by appealing to specific features of the interconnections among the elements” (p. 20). The technical solution that enables display of the network structure is graphs (Laumann & Pappi, 1976). A graph consists points and lines; points represent actors, and lines indicate relations among actors (Scott, 1991).
The information in a graph can be represented in matrix forms with rows and columns (Wasserman & Faust, 1994). The elements or scores in the cells of the matrix record information about the ties between each pair of actors (Hanneman, 2008). That is, if a tie is present, “1” is entered in a cell; if there is no tie, “0” is entered. This kind of a matrix is called an “adjacency matrix”, because it represents who is next to, or adjacent to whom in the “social space” mapped by the relations that we have measured (Hanneman, 2008). The following is examples of representing networks with graphs and matrices. All examples and descriptions used here are drawn from Hanneman’s (2008).

4.2.2.1 Nodes for a Simple Graph

To find who identifies whom as a “friend” in a group of four people (A, B, C, D) network analysis begins with representing each actor as a node with a label (Hanneman, 2008). Figure 4.1 shows a graph with four labeled nodes, but no connections. In this graph, an attribute of each actor can be indicated by the color of the node (e.g., black for males, white for females). Coloring, shading, or different shapes and sizes are often used to represent attributes of the individual nodes.
4.2.2.2 A Directed Graph

When actors in a network are asked to identify their friends, answers of each actor can be represented as an arrow from the “chooser” to each of the “chosen”, as in Figure 4.2 (Hannemann, 2008). The following is a directed graph that demonstrates friendship relationships among A, B, C, and D.
4.2.2.3 A matrix of a Network Graph

The relationship among actors can be represented by binary data. Table 4.1 demonstrates the relationship in Figure 4. The rows represent the choosers, and the columns represent the chosen actors. The relationship among actors is represented with zeros (absence of relationship) and ones (presence of relationship).

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<td>C</td>
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<tr>
<td>D</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
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</tbody>
</table>

Table 4.1: A matrix of the graph shown in Figure 4 (Hannemann, 2008)

4.2.3 Network Visualization

To interpret data stored in graphs and matrices, a network map that visually demonstrates the relationships among actors. This study uses NetDraw, a network visualization software. NetDraw “qualitatively explore various features of the network and develop several themes pertaining to the attributes of the actors and the obtained network structure” (Quatman, 2006, p. 99).

4.3 Case Selection

The case study of this dissertation is contextualized in a city’s cultural ecosystem. The cultural ecosystem is defined as a set of individuals and organizations engaged in the creation, production, and distribution of and support for arts and cultural products and services that can be shaped and evolved through environmental (cultural, economic, and
political) factors. In this dissertation, the *cultural ecosystem* is considered to be the underlying dynamics that influence the content and quality of arts and culture.

Considering that arts and culture are one of the determinants of city competitiveness, this dissertation investigates ways to enhance the capacity of the cultural ecosystem (*cultural capacity*). Based on the literature emphasizing the need for a favorable environment that fosters innovation and creativity through interactions among of actors (Camagni, 1995a, 2001; Landry, 2000), the current study examines the *cultural ecosystem* through a lens of networks. Networks among actors in the *cultural ecosystem* are the unit of analysis. This study considers the presence of *creative networks* in the *cultural ecosystem* that stimulate active information transfer that can help problem solving and new idea creation to be one of the factors that enhance the *cultural capacity* of a city.

To operationalize the discussion above, this dissertation provides an exploratory study of networks in the cultural system in a city through a case study. Columbus, Ohio was chosen for the case study in terms of its arts and cultural assets. In order to select the case city, this study explores various city rankings that measure U.S. cities with their arts and cultural infrastructure such as employment or facilities.

The rise of a creative economy has offered new opportunities for cities. As cities that are not rich in natural or capital resources have accomplished a significant position in global market with their creativity-driven individuals (A. J. Scott, 2000), many cities have started to develop the cultural sector, expecting to become a “cool city”, “culturally vital city”, or “artsy city”. Among these cities, the current study focuses on what Markusen et al. (1999) have termed “second-tier cities”.

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By “second-tier cities,” Markusen and colleagues (1999) refer to “spatially distinct areas of economic activity where a specialized set of trade-oriented industries takes root and flourishes, establishing employment and population growth trajectories that are the envy of many other cities” (p. 3). The authors use the term to represent the emergence of cities, which have been growing relatively faster than old, established cities in terms of the growth of the economy. In this study, the term “second-tier cities” is defined as cities that are not well known as star cities like New York or San Francisco, but those that maintain the potential to become America’s next top cities in terms of arts and culture.

To identify “second-tier cities”, this dissertation reviews studies that provide a report on the status of arts and culture in U.S. cities. For instance, Markusen (2002; 2006) presents the distribution of “artistic workers” including authors, musicians and composers, actors and directors, painters, photographers, dancers and choreographers. Florida (2002) shows the number of “bohemians” such as authors, designers, musicians and composers, actors and directors, craft-artist, painters, sculptors, artist printmakers, photographers, dancers, artists, and performers. Americans for the Arts (2005) provides the number of businesses and employees in “creative industries,” including museums and collections, performing arts, visual arts and photography, film, radio & TV, design & publishing, and arts school & services. While the data described above are limited to the number of employees and businesses, the Urban Institute’s (2006) Cultural Vitality in Communities develops more profound data which include seven different rankings—arts establishments, employment in arts establishments, non-profit community events and festivals, non-profit arts expenses, non-profit arts contributions, and artistic jobs—for 50
U.S. cities.

The studies mentioned above provide city rankings measured by arts and cultural assets in a city. While all these rankings demonstrate valuable information on the status of arts and culture in US cities, this dissertation uses the Urban Institute’s Cultural Vitality ranking as the main source. This ranking provides the most recent and inclusive data based on seven categories.

The case selection process in the current study is as follows: (1) cities ranked by seven categories were divided into three tiers and scored -1, 0, and 1; (2) the scores for seven categories then were summed up for cities resulting in a total score ranging from -7 to 7; (3) for the purpose of this study, cities whose total scores were around -1 to 1 were identified as second-tier cities and carefully reviewed. Through this process, Columbus, Ohio was selected as a case city for this dissertation.

Columbus is positioned in a second-tier group among US cities in terms of its arts-and cultural assets. It is located in Midwestern United States, a traditionally “peripheral” area in terms of arts and culture, with relatively few distinct arts and cultural events or “iconic” architectural landmarks. However, it has a potential to be a first-tier arts and cultural city in some aspects.

Table 4.2 presents the current standing of Columbus, Ohio among 50 U.S. cities based on its “cultural vitality” (Urban Institute, 2006). According to the Urban Institute’s “cultural vitality” index, Columbus is ranked at bottom in terms of the number of non-profit arts and cultural organizations and enterprises, whereas the city holds a high standing in non-profit arts contributions and expenses. Moreover, it was ranked at top in the number of community festivals and events. The high amount of budget may improve
the quality of arts and cultural products and make them more sustainable. Diverse community festivals and events may offer rich entertainment options and enhance a sense of community attachment. In this respect, we can infer that Columbus has made continuous efforts towards the development of its cultural sector and has a high potential to advance the cultural capacity.

<table>
<thead>
<tr>
<th>“Cultural vitality” index</th>
<th>Rank (Out of 50 US cities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The presence of opportunities for arts and cultural participation</td>
<td>Non-profit Community Events and Festivals</td>
</tr>
<tr>
<td></td>
<td>Employment in Arts Establishments</td>
</tr>
<tr>
<td></td>
<td>Arts Establishments</td>
</tr>
<tr>
<td>The presence of support for arts and cultural activity Non-profit Arts Expenses</td>
<td>Non-profit Arts Contributions</td>
</tr>
<tr>
<td></td>
<td>Non-profit Arts Expenses</td>
</tr>
<tr>
<td></td>
<td>Artistic Jobs</td>
</tr>
</tbody>
</table>

Table 4.2: The “cultural vitality” ranking of Columbus, Ohio (Based on Urban Institute (2006). Cultural Vitality in Communities)

4.4 Sampling and Data Collection Processes

The unit of analysis of this dissertation is networks among actors in the cultural ecosystem in Columbus, Ohio. Supported by the argument that a rich relationship among actors with various resources can improve innovation and creativity in community (Amin & Thrift, 2005; Camagni, 1991; Maillat, 1998; Morgan & Nauwelaers, 1999; Porter 1990; Scott, 1988; Storper, 1995), this study detects interactions of actors in the cultural ecosystem in terms of information transfer and the effect those interactions on the
performance of actors in the cultural ecosystem. The sampling process was designed to select actors who constitute the primary network of the cultural ecosystem in Columbus.

The cultural ecosystem is divided into two sub-systems: cultural production- and policy support system. For the case study, two groups of subjects were recruited. The first group is composed of individuals who participate in the production of arts and cultural products and services. The subjects of this group were identified among people who work in organizations and institutions located in the “cultural scene” (Columbus Cultural Policy Steering Committee, 2007, p. 23). A map of Columbus’s cultural scene is provided in Figure 4.3. The second group is composed of individuals who participate in the development of cultural policy. The subjects of this group were identified from policy reports and news articles.
The term “cultural scene” is defined here as a place in which various organizations and institutions are embedded, diverse actors with different resources are engaged, and a variety of activities related to arts and culture take place (Columbus Cultural Policy Steering Committee, 2007, p. 23). The cultural scene in Columbus is
divided into five zones identified by characteristic features of their arts segments and constituencies:

- Zone 1: “The downtown cluster of CAPA theaters,” featured by local anchor arts organizations and commercial touring companies.
- Zone 2: “Institutional islands,” including the Columbus Art Museum and CCAD, the Franklin Park Conservatory and COSI.
- Zone 3: An “island” isolated from the major cultural scene due to its location and demographics, but has the potential for becoming a creative scene.
- Zone 4 & 5: A corridor of the cultural scene that runs from the Short North to OSU and the Wexner Center and is linked to downtown arts venues.

(Columbus Cultural Policy Steering Committee, 2007, p. 23)

Once the subjects were identified, the network survey was sent (See Appendices A and B for survey instruments). The survey asked subjects to identify people with whom they have a relationship and feel comfortable asking help for daily matters or more complex problems in their field. If a subject identified new people, the network survey was sent to those people. The survey was conducted from June 29 to October 25, 2008. It obtained OSU Institutional Research Board (IRB) approval (project number 2008E0468) on June 23. In total, 159 surveys were mailed, and 55 surveys were returned.

The survey participants of this dissertation broadly represent the population of the cultural ecosystem in Columbus. They were selected among diverse groups of people with various resources (political authority, expert knowledge and experience in arts and culture, financial support, and community leadership). Subsequent monitoring with key
informants confirmed that the subjects were actively engaged in the cultural ecosystem in Columbus. Some survey participants include:

- Individuals who work in the State/City/Local Arts Councils and in the City Council
- Individuals at executives level in large size corporations.
- Board members of arts organizations, University professors, Directors of community organizations
- Individuals at executive level in flagship arts organizations, directors of small arts organizations, directors of community arts festivals.
- Individuals at executive level in advertising/design firms, gallery owners.

4.5 Survey Design

The survey used in this study was designed to obtain information that allows the assessment of interactions of actors in the cultural ecosystem in terms of information transfer through networks. In order to determine the extent to which actors interact with one another in the cultural ecosystem, the survey used a name generator question that asked subjects’ relationships with others. By asking the question, this dissertation could obtain data on the structure and quality of networks in the cultural ecosystem.

As described in Chapter 1, this dissertation is confined to networks as informal channels of information embedded within and across the cultural ecosystem. These networks are characterized to be “unplanned local interactions” formed by “the coexistence of market, social, and institutional relationships, which occur almost routinely in a cluster context” (Giuliani, 2007, p. 150). Due to the intensive “face-to-face contact” based on physical proximity, these relationships are traditionally considered to
be an important vehicle for exchanging information (Storper & Venables, 2004).

The survey was comprised of three network questions. The first question asked subjects to identify people to whom they talk about their personal or business matters. This question helped create the data of the cultural production- and policy support system network that can demonstrate the information transfer relationship among actors in the cultural ecosystem. This question was used to determine the extent to which information is actively transferred. It helped to measure the number of connections in a network (density), the number of separated actors in a network (cliques), and the presence of actors who help others participate in networking activities (central connectors). The question also helped assess the extent to which various information were used by identifying each actor’s resource base (diversity).

The second question asked the subjects to mention their primary relationship with each person indicated in the previous question. Multiple choices, including financial support, business advice, and personal advice, were offered. This question helped describe the types of information frequently sought by actors in the cultural ecosystem.

The third question asked the subjects to indicate the most important person in the cultural ecosystem who is helpful to them in dealing with more complex problems. This question helped to identify the actors who maintain the most important information (information bases). As Giuliani (2007) says, expert knowledge or experience tends to concentrate on some actors, and be distributed unevenly in a network. Accordingly, information from these people, what Giuliani (2007) calls “innovation-related” information, is more directly related to problem solving and new idea creation. A network built on this question is distinguished from the one based on the previous
question by the qualitative difference in the level of transferred information. While the previous network helps demonstrate the flow of information, this network helps determine whether it is useful in promoting the performance of the cultural ecosystem.

4.5.1 Survey Questions

[Question 1 for actors in the cultural production system]

Please identify three people who are important to you in the arts world in Columbus. These can be people who provide information, or advice or personal/organizational support. These may or may not come from your organization.

[Question 1 for actors in the policy support system]

Please identify three people who are important to you in the arts and culture of Columbus. These can be people who provide information or expert advice, or have a professional/policy making relationship with you. These may or may not come from within your organization.

[Questions 2 for actors in the cultural production system]

For a person you identified in Question 1, please indicate the primary relationship that connects you to him or her.

a. Information that helps find new opportunities and/or addresses challenges in the arts world.

b. Financial support that helps move the community cultural plan ahead.

c. Political action that helps move the community cultural plan ahead.

d. Policy advice that affects my business/organization’s interests.

e. Financial support that advances my business/organization’s interests.

f. Having a partnership on a particular project.
g. Sharing professional interests and/or organization memberships with me.

h. Business or professional advice that helps me be more effective in my work.

i. Personal support to discuss a problem in my work or daily life.

[Question 2 actors in the policy support system]

For a person you identified in Question 1, please indicate the primary relationship that connects you to him or her.

a. Information that helps find new opportunities and/or address challenges in the arts and culture of Columbus.

b. Financial support that moves the community cultural policy agenda ahead.

c. Political action that moves the community cultural policy agenda ahead.

d. Having a disagreement with me about cultural policy issues, but providing appropriate feedback that broadens the community cultural policy agenda.

e. Having a partnership on a particular project.

f. Policy advice that affects my organization’s interests.

g. Financial support that advances my organization’s interests.

h. Personal support to discuss a problem in my work or daily life.

[Question 3 actors in the policy support system]

For people you identified in Question 1, please indicate one person to whom you most often turn for advice on complex problems which require in-depth knowledge or extensive experience.

[Question 3 for cultural production system]
For people you identified in Question 1, please indicate one person to whom you most often turn for advice on complex problems which require in-depth knowledge or extensive experience.

Table 4.3 demonstrates research and survey questions and matching network indicators. The results of network analysis on the *cultural ecosystem* in Columbus using these measures are followed in Chapter 5.
Survey Question | Research Question | Indicator
--- | --- | ---
Please identify three people who are important to you in the arts world in Columbus. These can be people who provide information, or advice or personal/organizational support (provide information or expert advice, or have a professional/policy making relationship with you). These may or may not come from your organization. *Italics are questions for actors in policy support system.* | How many connections are available among actors? | Density
To what extent actors are directly interconnected? | Cliques
To what extent do actors actively engage in bridging other actors? | Central connectors
How diverse are the sectors to which actors belong? | Diversity
For people you identified in Question 1, please indicate one person to whom you most often turn for advice on complex problems which require in-depth knowledge or extensive experience. | To what extent do actors actively engage in solving more complex problems? | Information Bases

Table 4.3: Survey/research questions and indicators

4.6 Data Analysis and Visualization

The survey data were entered in UCINET, a social network analysis program. UCINET express each actor’s relationships in a matrix format. Each cell in the matrix represents the existence of a business relationship between actors on columns and rows. If there exists a relationship between actors, the cell is marked as “1”; if not, the cell is marked as “0”. UCINET also calculates scores for some network measures with pre-programmed algorithms. To assess interconnectivity such as *density*, network *density*
score was used; to identify key actors such as *central connectors* and information bases, between centrality score was used.

Once all data were entered into the UCINET database, network maps based on the data were created with using a network visualization program, NetDraw. NetDraw enabled to illustrate the connections among actors. In a network map, each node represented actors in the *cultural ecosystem*. A line indicated the flow of information among actors.

4.7 Researcher Bias

This dissertation was motivated by the researcher’s personal interest in the development of effective cultural policy that fosters the creation of better arts and culture that can increase city competitiveness. Supported by existing studies on regional economic development with specific regard to networks, this study examines the structure and the quality of networks among actors in the *cultural ecosystem* through the case study of Columbus, Ohio. Social network analysis was applied to trace the flow of information among actors and identify key actors who facilitate the information flow.

The researcher’s knowledge on relevant theories and general understanding of the cultural policy environment in Columbus were helpful during this study. However, because of the researcher’s preliminary assumption, this study may have a bias. The researcher assumed that, in the case of Columbus, there would not be many interactions among actors in the *cultural ecosystem* that cause synergy towards better arts- and cultural production and policy support. In other words, the researcher assumed that Columbus may not have the appropriate network structure that leads to increasing the level of its *cultural capacity*. 

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From the perspective of cultural policy, Columbus is in its early stage of cultural development. While some arts organizations and the city arts council were founded in the 1970s and the number of arts organizations significantly increased in the 1980s, more elevated city-level efforts to boost arts and culture in Columbus began only in the last decade. Along with the broadened constituencies and enhanced marketing and education programs in arts organizations, there was an increase in discussions about cultural policy in Columbus in the late 1990s (Dewey, 2004). Accordingly, arts and culture in Columbus have occupied an important position in the city’s policy agenda with the expectation that they can bring positive change to the city (Wyszomirski, 2006).

Recent studies to explore arts and culture in Columbus provide a portrait of the issues and challenges that the city currently faces (CCLC, 2006; OAC, 2001; Wyszomirski, 2006). While “a clearly defined and articulated cultural policy is virtually non-existent in Columbus, Ohio” (Dewey, 2004, p. 111), these studies demonstrate that policy makers in Columbus are aware that arts and culture are core assets of the city’s economic future and recognize the need for strategic support of arts and culture. These studies provide insight into various areas, such as the local cultural ecology (Wyszomirski, 2006), the economic impact of arts and culture (CCLC, 2006; GCAC, 2007), funding models (Columbus Partnership, 2003), and public value (OAC, 2001).

From a network perspective, a more interesting finding of these studies is that they emphasize the leadership based on interactions among multiple actors across all levels of government, non-profit and for-profit sectors, rather than a single dominating actor for cultural development in Columbus. However, the literature does not provide rich detail regarding the nature, extent, and dynamics of interactions that can influence
the performance of actors related to arts and culture. Although interactions among actors seem to be mostly understood as a way to promote both the cultural and economic development of Columbus, attempts to examine whether there exist meaningful networking activities that can strengthen the *cultural ecosystem* are underdeveloped. Although several collaborative activities, such as CCLC (Columbus Cultural Leadership Consortium), CAMA (Columbus Arts Marketing Association), Creative Columbus Policy Steering Committee, and 2012 Bicentennial Commission, are underway, the behavior pattern of these projects seems to be limited to membership relations for some prominent nonprofit arts organizations (CCLC and CAMA), or a temporary coalition to develop policy plans (Steering Committee and Bicentennial Commission). These biases may have influenced the ways that the researcher interpreted data.
CHAPTER 5

RESULTS

5.1 Introduction

This chapter explores interactions among actors in the cultural ecosystem in Columbus, Ohio through network analysis. Supported by the literature that highlights networks as the key for regional innovation capacity (Amin & Thrift, 1995; Camagni, 1991; Maillat, 1998; Scott, 1995), this dissertation developed a framework using networks as a lens to examine the relationship among actors in the cultural ecosystem. This framework is useful to describe whether information related arts and culture is open to all actors in the cultural ecosystem, and to determine whether the information transferred through networks in the cultural ecosystem contributes to addressing problems. This chapter expects to contribute to the literature on arts and culture in Columbus through network analysis of the cultural ecosystem in the city. The results of this analysis can be used to evaluate the status of the cultural capacity in Columbus and to further devise policy strategies that empower the city’s cultural ecosystem.

Section 5.2 presents the result of network analyses of the cultural ecosystem in Columbus. It applies the concepts and techniques of social network analysis to visualize and analyze interactions among actors through networks in the cultural ecosystem in Columbus. It examines two levels of networks in the cultural ecosystem: the whole and sub-system networks. Section 5.3 provides a summary of the results.
5.2 Network Analysis of the Cultural Ecosystem in Columbus, Ohio

This section provides a close examination of networks in the cultural ecosystem in Columbus, Ohio. Based on the literature suggesting that a rich relationship among actors within and across the production-and policy support system can change the innovational capacity of a region (Amin & Thrift, 1995; Camagni, 1991; Maillat, 1998; Scott, 1995), this study divided the cultural ecosystem of Columbus into two sub-systems (cultural production-and policy support). The actors in these sub-systems compose the cultural ecosystem of the city. UCINET is used to measure creative network indicators introduced in Chapter 3 and to visualize interactions among actors in the network. Two aspects of networks—interconnectivity and quality of information—are examined.

5.2.1 The Cultural Production System Network in Columbus

Inter-organizational (personal) networks that are “connected or bound together through some form of sustained interaction, within which there is necessarily a degree of commonality” can be an empowerment platform for increasing competitiveness of organizations or individuals (Huggins, 2000, p. 112). For actors who are involved in the production of arts and culture, inter-personal networks can be one of the important instruments that affect their performance by encouraging them to access a broader pool of information.

To analyze networks among actors in the cultural production system in Columbus, this dissertation developed a dataset of a group of individuals who participate in the production of arts-and cultural products and services (e.g., workers at non-profit arts organizations such as art museums, performing arts organizations, theaters, for-profit enterprises such as galleries and design companies). The subjects of this group were
identified among people who work in organizations and institutions located in the
“cultural scene” in Columbus (Columbus Cultural Policy Steering Committee, 2007, p. 23).

A name-generator question was used in the data collection process (e.g., Please identify three people providing information, or advice or personal/organizational support). Thirty-one actors identified three other actors with whom they have relationships. A total of 85 actors were identified as part of the cultural production system network in Columbus: 50 actors were from the arts sector (41 non-profit and 9 for-profit), 6 actors from the business sector, 19 actors were from the civic sector, and 10 actors were from the public sector. A more detailed analysis of this network is discussed in the following subsections.

5.2.1.1 Interconnectivity

Network interconnectivity identifies the extent to which information is distributed through interactions among actors. Three indicators were used to measure the interconnectivity of the cultural production system in Ohio: density, cliques and central connectors. To recap, density assesses the proportion of possible network connections, cliques assess the overall connectedness among actors in a network, and central connectors identify actors who actively share information with others. If a network has a high density score, along with no separate cliques, and many central connectors, a large number of actors in the network can access information in a timely manner. Such a network is considered to have a high potential of fostering the innovative power of actors that can further improve the content and quality of arts and culture.
Density

The density of the cultural production system network in Columbus was calculated by UCINET. Vogenbeck (2005) explains density with a “friend of a friend is a friend scenario” (p. 149). He argues that if A identifies B as a friend, and B identifies C as a friend, A and C can be friends (Figure 5.1).
This means that if A shares important information with B, C is able to access the information through B. Based on this scenario, an ideal network is characterized by the density score of 1, which means all actors are interconnected with one another. As shown in Figure 5.2, a network with the density score of 1, all actors in the network can possibly access information available in the network.
The density score of the cultural production system network was 0.19, which means that 19% of the actors in the network could maintain a “friend of a friend is a friend” relationship. In other words, 81% of the actors in this network had no connection to other actors. They might not able to meet other actors and exchange information about various topics from personal issues to business matters, including emerging artists, funding information, and new government policies.

**Cliques**

In addition to the density score, the number of cliques determines whether actors in a network have an information-rich environment. Cliques are characterized by small and exclusive sets of actors (Knoke & Kuklinski 1982). In a clique, “actors are more closely and intensely tied to one another than they are to other members of the network” (Hanneman, 2008). Therefore, the presence of cliques can prevent the flow of information in a network. Accordingly, some actors in the network may not be able to obtain information that other actors have.

Figure 5.3 demonstrates the structure of the cultural production system network in Columbus. In this visualization, each node represents an actor. A line between nodes represents a link that connects each actor. Node colors correspond to the sector to which each actor belongs: red (arts), blue (business), yellow (civic), and green (public). Among actors from the arts sector, non-profit actors are signified by circles and for-profit actors are signified by squares. Among actors from the non-profit arts sector, actors of flagship arts organizations are represented as triangles.

Figure 5.3 illustrates that this network had a disconnected structure with 9 non-overlapping cliques. As presented in the figure, there was one large clique of 55 actors
and eight small *cliques* of three to six actors in this network. Since there were no linkages that could transfer information from one *clique* to another, it was assumed that actors in each *clique* might have different information and might not have a chance to share information with other *clique* members.

For example, in Figure 5.3, both A21 and A51 worked in a performing arts organization. A51 belonged to a small isolated *clique* (*Clique #8*) with three members; and A21 belonged to a larger *clique* (*Clique #1*). Both actors had only one connection with other actors in their *cliques*; however, it was assumed that the quantity of information might be different between them. A21 could have a chance to receive accumulated information of maximum 54 people in his/her *clique*, whereas A51 could only access a relatively little information.
Figure 5.3: Structure of the cultural production system network in Columbus, Ohio
Central connectors

*Central connectors* refer to actors who are the most active participants in transferring information by linking with others (Birk, 2005). To identify *central connectors*, the *degree centrality* score of each actor in this network was calculated by UCINET. *Degree centrality* measures the number of connections to others in the network. If an actor holds a high *degree centrality* score, the actor has many connections to others. In other words, the actor “may have access to, and be able to call on more of the resources of the network as a whole” (Hanneman, 2008). Therefore, the presence of many *central connectors* indicates that there would be many “intermediaries” that help the diffusion of information (Birk, 2005, p.87).

Also, the number of connections (*degree centrality* score) of the actors in this network helps identify their interaction pattern in terms of information seeking. Table 5.1 presents the breakdown of the *degree centrality* score of the *central connector* analysis. As shown in Table 5.1, except for few actors (A6, C15, C5, A7, and C13), the majority of this network (84%) maintained only one or no connections. This indicates that most actors in this network were “introverts”, who would not obtain information through external sources (Malecki & Poehling, 1999).
<table>
<thead>
<tr>
<th>Degree Centrality Score (possible maximum score=87)</th>
<th>Actor (organization)</th>
<th>Sector (Number of actors) (Total 55 actors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>A6 (flagship arts organization)</td>
<td>Arts (1)</td>
</tr>
<tr>
<td>4</td>
<td>C5 (foundation), C15 (college professor)</td>
<td>Civic (2)</td>
</tr>
<tr>
<td>3</td>
<td>A7 (flagship organization), C13 (business consortium)</td>
<td>Arts (1) Civic (1)</td>
</tr>
<tr>
<td>2</td>
<td>A30,</td>
<td>Arts (48), Business (6), Civic (16) Public (10)</td>
</tr>
<tr>
<td>1</td>
<td>A3, A12, A33, A35, A45, A48, A50, A51, A</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.1: The degree centrality score of central connectors in the cultural production system in Columbus, Ohio

Figure 5.4 is a visualization of central connectors in the cultural production system in Columbus. The node size represents the number of connections an actor maintains. In this figure, the largest node indicates that the actor is the person who had the largest number of connections with others. The node color is associated with the sectors to which the actors belong: red (arts), blue (business), green (public), and yellow (civic).

In this network, A6, a director of a flagship arts organization was identified as the central connector with the degree centrality score of 5. This means that A6 was expected to be the most linked person in the cultural production system in Columbus. The large number of connections to others could make A6 the most influential person in this network in terms of information gathering and distribution.
Suppose that A6 and A24, both of them were working at a performing arts organization, met at an opening reception. While chatting together, they found that they had a common interest in ethnic arts, and began planning season collaboration. During the planning process, A6 and A24 could mobilize their connections (college professor, ethnic arts organization, business executive, staff at local arts council) for inspiration, feedback and clues for a best practice.
Figure 5.4: Central connectors in the cultural production system in Columbus, Ohio
Note here, however, the close examination of the connections within the central connectors’ immediate environment shows that only some selected actors could have advantage of information sharing. As shown in Figure 5.5, A6 (director of a flagship arts organization), the central connector of this network, was connected to some actors from flagship arts organizations (A20, A24, A39, and A49), and one actor from a large corporation (B2). Actors like C5 (director of a business consortium) and C15 (college professor), who maintained a relatively large number of connections in this network, were also connected to actors from flagship arts organizations (A4, A7, A22, A27, A43, and A49) and the business sector (B4). This indicates that there would be active information transfer among actors of flagship arts organizations, while actors from small arts organizations, who were isolated from the core network, would not be able to access valuable information.

Figure 5.5 also demonstrates that actors of the cultural production system in Columbus would not have diverse information. Since the central connectors, who were expected to actively create new links to a variety of information sources and exchange and transfer information, tended to maintain a limited range of connections with flagship arts organizations, the opportunity to access information about new government policies, or joint programs among small and large arts organizations might not be available in this network.
Figure 5.5: The immediate environment of the central connector in the cultural production network in Columbus, Ohio
5.2.1.2 Quality of Information

In order to assess whether information disseminated in a network can contribute to solving complex problems and creating new ideas in the production of arts and culture, two indicators—diversity and information bases—were used. Diversity examines whether balanced information is available in the network and information bases examine the position of actors in the network that affects the information flow.

Diversity

The *diversity* of a network examines the extent to which diverse resources can be integrated into the production of arts and culture. As discussed in Chapter 3, the *cultural ecosystem* is a set of individuals and organizations engaged in the creation, production, and distribution of and support for cultural products, services, and policies. Therefore, a broad participation of actors from different sectors can affect activities in the *cultural ecosystem* by bringing diverse resources.

The *diversity of the cultural production system* is examined through the distribution of sectors to which actors of the network belong. To do this, this study breaks down actors in the *cultural ecosystem* into four sectors (arts, business, civic, and public) and examines the placement of each sector in networks. The analysis of the *diversity* helps understand whether actors of the *cultural production system* can pull enough resources together in their activities.

Table 5.2 presents the breakdown of the number of actors by their organizational sector in the *cultural production system network* in Columbus. Actors from the arts sector were the majority group in this network; a few actors from the business sector participated in this network. Based on this table, actors in this network could attain
diverse resources (e.g., artistic creativity, political authority, financial support, managerial know-how) pulled from other actors.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Arts</th>
<th>Business</th>
<th>Civic</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of actors</td>
<td>42 (non-profit arts organizations/24 flagship+18 small arts organizations) 9 (for-profit arts enterprises/2 galleries + 7 design companies)</td>
<td>5 (large and medium size corporations)</td>
<td>14 (non-profit organizations) 5 (college professors) 4 (board members of non-profit arts organizations) 2 (chamber of commerce)</td>
<td>6 (state arts council) 4 (city arts council)</td>
</tr>
<tr>
<td>Total=51</td>
<td>Total=4</td>
<td>Total=25</td>
<td>Total=10</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.2: Breakdown of sectors in the cultural production system in Columbus, Ohio

Table 5.3 demonstrates the composition of cliques in the cultural production system based on the clique members’ sector (see Figure 5.3 for the visualization). The analysis of the distribution of sectors in each clique helps understand the extent to which the actors in this network could attain diverse resources. For example, apart from friendship, Cliques #6 and #9 (design companies) could exchange new design trend, Cliques #3 and #8 (non-profit organizations and arts organizations) could develop joint programs. Actors of Cliques #2, #4, and #7 could access financial resources (arts organizations and state/city arts council).

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While this network contained a variety of resources from different sectors, whether all the actors could access all the possible resources is another question. As shown in Table 5.3, Clique #1 was the largest clique, consisting of 55 members, including actors from all four sectors. In contrast to Clique #1, Cliques #6, #8 and #9 were organized with homogeneous members from the arts sector. Clique #8 was formed by non-profit actors, and Cliques #6 and #9 were formed by for-profit actors. This means that actors in these three cliques were likely to obtain more limited information than actors in other cliques, because they had no linkages with other actors who might have more information about other fields. For example, actors in Clique #8, who are directors of small arts organizations, might not have heard information about partnership programs or potential donors. In the same vein, actors in Clique #9, who are CEOs of design companies, might not have had the chance to meet future business partners.

Conversely, since actors in these cliques (Cliques #6, #8, and #9) shared information with only insiders, other actors might not have accessed information available in these cliques. Especially, among all the actors, actors from the for-profit arts sector tended to cluster themselves. Except for Clique #4, which included one actor from the civic sector (C24, local chamber of commerce), no connection was found between actors from the for-profit arts sector and other actors within this network.

From this, we can infer that there existed a divide between for-profit and non-profit actors in the same arts sector. Among the total of 9 for-profit actors, only one actor had a connection to the actor who was not insiders (see Clique #4). This could lead to a limited choice for arts organizations that were interested in innovative exhibition design and looking for a skilled designer with experience.
There could be another divide between flagship arts organizations and small arts organizations in terms of information sharing. In *Clique* #1, the largest *clique* in this network, among the 28 non-profit arts actors, only five actors (A17, A21, A23, A36, and A49) were from small, volunteer-based, or informal amateur arts organizations.
<table>
<thead>
<tr>
<th>Clique #</th>
<th>Size (Number of actors)</th>
<th>Composition by Sector</th>
</tr>
</thead>
</table>
| 1       | 55                     | Non-profit arts (28): 23 flagship arts organizations +5 small arts organizations  
Business (4): Large-size corporations  
Civic (16): 5 college professors + 3 board members of non-profit arts organizations + 2 chamber of commerce + 5 foundations and individual donors + 1 consultant  
Public (6): 4 state arts council + 2 city arts council |
| 2       | 6                      | Non-profit arts (4): 4 small arts organizations  
Civic (1): non-profit organization  
Public (1): city arts council |
| 3       | 3                      | For-profit arts (2): 2 galleries  
Civic (1): non-profit organization |
| 4       | 4                      | For-profit arts (3): 3 design companies  
Civic (1): local development commission |
| 5       | 4                      | Civic (2): 2 non-profit organizations  
Public (1): 1 state arts council + 1 city arts council |
| 6       | 3                      | For-profit arts (3): design companies |
| 7       | 4                      | Non-profit arts (3): small arts organizations,  
Public (1): city arts council |
| 8       | 4                      | Non-profit arts (4): 2 flagship arts organizations + 2 small arts organizations |
| 9       | 3                      | For-profit arts (3): design companies |

Table 5.3: Composition of cliques in the cultural production system network in Columbus, Ohio
Information Bases

As explained in Chapter 3, while central connectors are characterized by “face-to-face contacts,” that is formed by “unstructured” interactions among local professionals, information bases are determined by “a purposeful behavior” of actors seeking “innovation-related knowledge” associated with the solution of complex problems in the field (Giuliani, 2007, p. 144). Drawing on Giuliani (2007), to identify information bases, the survey question asked the subjects to identify a person from whom they expected expert advice on complex problems.

Table 5.4 demonstrates the breakdown of the degree centrality score for information bases of the cultural production system. If an actor holds a high degree centrality, the actor is considered to be an innovative guru. Three actors—A24, A26, and P2 were identified as information bases with a relatively high degree centrality score. An interesting finding from this table is that the top three actors’ degree centrality score was 2. Considering that the possible maximum degree centrality score in this network is 29, this is a pretty low score. This score indicates that this network had no prominent actors whom most people ask for help and guidance when they met challenges. Note that these three information bases had a very low score on the central connector analysis (see Table 5.1). In other words, they were not likely to have many connections with other actors. Therefore, if an actor wants to reach them and ask help, a broker is needed who creates a link between the actor and information bases.
Table 5.4: The degree centrality score of information bases in the cultural production system in Columbus, Ohio

<table>
<thead>
<tr>
<th>Degree Centrality Score (possible maximum score = 29)</th>
<th>Actor</th>
<th>Sector (Number of actors) (Total 55 actors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>A24  (flagship arts organization), A26 (flagship arts organization), P2 (state arts council)</td>
<td>Arts (2), Public (1)</td>
</tr>
<tr>
<td>1-0</td>
<td>Others</td>
<td>Arts (48), Business (4), Civic (16), Public (8)</td>
</tr>
</tbody>
</table>

Figure 5.6 visualizes the distribution of information bases of the cultural production system network in Columbus. The actors who are trusted to own innovation-related information are represented as the largest nodes. This figure shows that not every actor of the cultural production system was able to reach the information bases; there were several isolates. The isolates in this network indicate that as few prominent actors controlled the information flow, only some selected organizations could be better off in pulling diverse resources in the production of arts and culture.

As can be seen in this figure, information bases were not likely to have many connections with other actors. Therefore, if an actor wants to reach them and ask for help, the actor needs a broker who creates a link between the actor and information bases. For example, C2, an independent consultant could assist A22, a director at an arts organization with financial difficulties, in developing strategic marketing plans or planning joint program by introducing A6. In contrast to A22, A1, a director at a small
arts organization, might not have an opportunity access professional advice, because she/he was isolated from the flow of innovation-related information.

Figure 5.6: Information bases of the cultural production system network in Columbus, Ohio
5.2.2 The Policy Support System in Columbus

While inter-personal (organizational) networks of actors involved in the production of arts and culture can influence on creative output through the exchange of valuable information (Landry, 2000; Giuliani, 2007), networked governance, that is built on interactions among actors involved in policy decision-making and implementation, can provides an ideal platform for such creative production (Benz & Furst, 2002; Parker, 2007). Trust and shared values among actors in networked governance enable actors to set directions and solve problems during decision-making process (Bull & Jones, 2006).

Networked governance is characterized by a well-interconnected network structure and a broad distribution of information that helps problem solving and new idea creation in policy-making and implementation process. To analyze whether there exists networked governance in the policy support system in Columbus, this dissertation developed a dataset consisting of individuals who participated in the city’s cultural policy-making. The subjects were recruited from those who had taken part in recent cultural policy reports, or those who were nominated as advisory committee for cultural policy projects. As in the data collection process for the cultural production system network, using a name-generator question that asks their relationships with other actors (e.g., who are the people with whom you often discuss issues in your field?), 25 actors identified three other actors as their network members. A total of 54 actors comprised a part of the policy support system network in Columbus.
5.2.2.1 Interconnectivity

As in the analysis of the cultural production system in Columbus, an analysis of the interconnectivity of the policy support system in Columbus was conducted by using three indicators: density, cliques and central connectors. To recap, these three indicators assess the overall connectedness among actors in a network. A well-interconnected policy support system is characterized by a high density score with no isolated cliques and the presence of strong central connectors.

Density and Cliques

The density score of the policy support system network in Columbus is 0.25, which indicates that 25% of the actors in this network were connected to one another. In other words, 75% of the actors would not be able to receive news or updates directly from other actors. Figure 5.7 illustrates the structure of the policy support system network in Columbus. Each node represents an actor and a line between nodes represents a link that connects actors. Node colors correspond to the sector to which each actor belongs: red (arts), blue (business), green (public), and yellow (civic). A circle signifies non-profit actors and a square signifies for-profit actors.

As shown in this Figure, the policy support system in Columbus had no cliques. In contrast to the actors of the cultural production system, actors of the policy support system could possibly reach all other actors, at least indirectly. For example, P16, who worked at the city arts council, had no direct linkages with actors of the arts sector; however, when P16 wants to develop after-school programs and to have brainstorming sessions with people in arts organizations, P16 could consult with C11 (director of non-profit organization), who maintained a connection with the arts sector (A6).
Figure 5.7: Structure of the policy support system network in Columbus, Ohio
Central Connectors

Central connectors in the policy support system are characterized by a large number of linkages with other actors in the network (Birk, 2005). The presence of many central connectors can result in diverse resources and perspectives in policy discussions by connecting actors who have not been linked to the core policy decision-making group. To identify central connectors of the policy support system, the number of connections (degree centrality) of each actor was examined.

Table 5.5 shows the degree centrality score of each actor in the policy support system network in Columbus. As shown in the table, P2 had a relatively high degree centrality score (9) than others (below 5). This indicates that actors of this network seemed to rely on one prominent actor who played a bridge role in the network. In this case, two scenarios are possible: P2 can either enrich policy options by serving as communication channels, or impede policy options by advocating for few selected groups.

Meanwhile, the degree centrality score demonstrates the interaction pattern of actors in the network. Based on the table below, 89% of the all the actors in this network maintained only one or no connections. This indicates that actors in this network were mostly introverted in networking activities.
<table>
<thead>
<tr>
<th>Degree Centrality Score (possible maximum score=72)</th>
<th>Actor</th>
<th>Sector (Number of Actors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>P2 (state arts council)</td>
<td>Public (1)</td>
</tr>
<tr>
<td>5</td>
<td>A6 (flagship arts organization), P22 (city arts council)</td>
<td>Arts (1), Public (1)</td>
</tr>
<tr>
<td>3</td>
<td>A10 (flagship arts organization), C5 (business consortium)</td>
<td>Arts (1), Civic (1)</td>
</tr>
<tr>
<td>2-0</td>
<td>Others</td>
<td>Arts (11), Business (1), Civic (20), Public (16)</td>
</tr>
</tbody>
</table>

Table 5.5: The degree centrality score of central connectors in the policy support system network in Columbus, Ohio

Figure 5.8 visualizes the distribution of central connectors in the policy support system in Columbus. The node size represents the number of connections an actor has.

In this figure, the largest node indicates that the actor is the most influential person in the policy support system network in terms of information gathering and distribution due to his/her large number of connections to others. The node color is associated the sectors to which each actor belongs: red (arts), blue (business), green (public), and yellow (civic).

In this network, P2 (state arts council) had the highest degree centrality score. This means that P2 was the most linked person in this network. It was assumed that he was the person with whom other actors in this network would be likely to be sitting together at a café, talking about informal information or news about government policies. In this respect, P2 was expected to contribute to promoting policy-support activities in Columbus by providing direct and fast information to other actors.
Figure 5.8: Central connectors of the policy support system in Columbus, Ohio
A close examination of the immediate environment of P2 demonstrates that P2 had a relatively wide range of relationship within this network. As can be seen in Figure 5.9, P2 was connected to actors from flagship arts organizations (A17 and A27), non-profit organizations (C35), college professor (C1), state and city arts councils (P8, P11, P14, and P21), and the city council (P20); whereas P2 did not have linkages with actors from either small arts organizations or the business sector. This indicates that voices of small arts organizations and the business sector could not be heard in policy decision-making process.
Figure 5.9: The immediate environment of the *central connector* in the *policy support system* in Columbus, Ohio.
5.2.2.2 Quality of Information

In order to assess whether information disseminated in a network can contribute to solving complex problems and creating new ideas in the cultural policy decision making and implementation process, two indicators—diversity and information bases—were used. Diversity examines whether there exist a variety of resources that help develop comprehensive support system; and information bases assess the presence of actors who are considered to be a reliable source of leadership and advocacy.

Diversity

Table 5.6 shows the number of actors in the policy support system in Columbus grouped into four sectors. This network has a total of 54 actors: 14 actors are from the arts sector, 21 actors are from the civic sector, and 18 actors are from the public sector. Only one actor is from the business sector. The distribution of sectors in this network indicates that both actors from the arts and civic actors could make their voice heard in policy-making and implementation process by contacting actors of the public sector. Meanwhile, the absence of the business sector could impede effective policy-making and implementation. For example, when Columbus plans to develop a partnership project between real-estate companies and arts organizations, the city may have difficulties in finding a good match due to the lack of information about potential business partners. Conversely, the business sector might not gain advantage from public offerings, because they did not have a chance to present their opinions to actors from the public sector.
<table>
<thead>
<tr>
<th>Sector</th>
<th>Arts</th>
<th>Business</th>
<th>Civic</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of actors</td>
<td>14 (non-profit flagship organizations)</td>
<td>1 (Large-size corporation)</td>
<td>6 (foundation, board members)</td>
<td>7 (state arts council)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total = 1</td>
<td>5 (college professors)</td>
<td>5 (city arts council)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 (non-profit organizations)</td>
<td>4 (councilmen, mayor)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 (consultant)</td>
<td>2 (local arts council)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 (chamber of commerce)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 (business consortium)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total = 21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Table 5.6: Breakdown of actors in the *policy support system* in Columbus, Ohio by organizational sectors

**Information Bases**

While the *central connector* analysis identifies actors who have many connections to others, an analysis of *information bases* identifies actors who have “specialized expertise” (Birk, 2005, p.46). The presence of *information bases* can make progress in policy decision-making by providing insights and leadership that are not likely emerge from other actors. Table 5.7 presents the *degree centrality* score of *information bases* in the *policy support system*. Note that P2, who was identified as the most linked actor, also was identified as the most resourceful actor in this system. This indicates that P2 was likely to actively participate in bringing many actors to the policy discussion table, and at the same time believed to be the important source for advice.
<table>
<thead>
<tr>
<th>Degree Centrality Score (possible maximum score=24)</th>
<th>Actor</th>
<th>Sector (Number of Actors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>P2 (state arts council), P22 (city arts council)</td>
<td>Civic (1), Public (1)</td>
</tr>
<tr>
<td>2</td>
<td>A6 (flagship arts organization), A25 (Flagship arts organization), C10 (consultant)</td>
<td>Arts (2), Civic (1)</td>
</tr>
<tr>
<td>1-0</td>
<td>Others</td>
<td>Arts (12), Business (1), Civic (16), Public (7)</td>
</tr>
</tbody>
</table>

Table 5.7: The degree centrality score of information bases of the policy support system in Columbus, Ohio

Figure 5.10 visualizes the distribution of information bases of the policy support system in Columbus. In this figure, the size of the nodes is proportional to the level of influence an actor has. The actors who are expected to contribute to solving problems and provide innovative ideas in the policy making and implementation are represented as the largest nodes.

In comparison with the cultural production system, in which information bases received only 2 votes, information bases of the policy support system (P2 and P22) achieved 4 votes. This score indicates that actors in the policy support system had relatively more chance to address challenge than actors in the cultural production system. For example, in case of state budget cuts, P2 and P22 would be the actors who were likely to take a leadership role in advocating and representing for the arts sector.

Meanwhile, a close examination of the environment of these information bases indicates that they had a limited range of relationships in this system. In Figure 5.7, P2
was directly linked to A27 (flagship arts organization), C1 (college professor), C35 (non-profit organization), and P8 (state arts council); P22 was connected to A10 (flagship organization), C21 and C32 (non-profit organization), and P15 (city arts council). Since these information bases maintained their relationship in a limited boundary, their expertise and resources could not be fully used in this system. For example, as they had no direct connections to actors from government or businesses, there might have difficulties in developing and implementing a mixed-funding model to help arts organizations facing financial hardships.
Figure 5.10: Information bases of the policy support system in Columbus, Ohio
5.2.3 The Cultural Ecosystem Network in Columbus

The cultural production- and policy support system discussed above compose the cultural ecosystem in Columbus. The cultural ecosystem in Columbus consists of individuals who are involved in arts and culture in various ways, for example, the production and distribution of arts and culture products and services (e.g., artists, workers at non-profit arts organizations including art museums, performing arts organizations, theaters and for-profit enterprises including galleries, design companies—interior and graphic design), financial support for arts and culture (e.g., board members of non-profit arts organizations, workers at foundations), cultural policy making and implementation (workers at public arts agencies and city council), partnerships between arts- and cultural organizations and other non-profit or for-profit organizations. A total of 118 actors comprised the cultural ecosystem network in Columbus.

This section follows the same order as earlier sections in this chapter. The interconnectivity and quality of information in the cultural ecosystem is explored by using creative network indicators. While the analysis of the cultural production system and the policy support system focuses on interactions among insiders of the system, this section focuses on interactions between these two sub-systems. The results of this analysis help identify whether there exists a gatekeeper who bridges between actors in the cultural production system and policy support system.
5.2.3.1 Interconnectivity

Density and Cliques

The density score of the cultural ecosystem was 0.073. This means that only 7.3% of the actors in this network were expected to access information through direct relationship with other actors. Figure 5.11 illustrates the connectedness of the cultural ecosystem network in Columbus. The node color is associated with the sectors to which the actors belong: red (arts), blue (business), green (public), and yellow (civic).

The network structure of the cultural ecosystem in Columbus demonstrated the same pattern with the cultural production system. This network had one large clique of 91 actors and eight small cliques of three to six actors who mostly worked at small arts organizations. The composition of these separated small cliques were the same as those of the cultural production system (see Table 5.3). Since actors of these separated cliques had no connections to outside advocacy organizations or public officials to represent their interest, they could remain disconnected from the policy support.
Figure 5.11: The structure of the cultural ecosystem network in Columbus, Ohio
Central Connectors

The presence of *central connectors* in the *cultural ecosystem* indicates the potential for collaborative relationship between the *cultural production* and the *policy support system* that can build a favorable environment for creative arts and cultural production. Table 5.8 presents the breakdown of *central connectors* in the *cultural ecosystem* network in Columbus, Ohio by their *degree centrality* scores. It also helps identify the networking pattern of the actors in this network. Except for two *central connectors* (A6 and P2), 89% of the actors in this network were introverted in interacting with other actors.

<table>
<thead>
<tr>
<th>Degree Centrality Score (possible maximum score=172)</th>
<th>Actor</th>
<th>Sector (Number of Actors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>A6 (flagship arts organization), P2 (state arts council)</td>
<td>Arts (1), Public (1)</td>
</tr>
<tr>
<td>5</td>
<td>P22 (city arts council), P17 (city arts council)</td>
<td>Public (2)</td>
</tr>
<tr>
<td>4</td>
<td>A10 (flagship arts organization), P6 (local arts council)</td>
<td>Arts (1), Public (1)</td>
</tr>
<tr>
<td>3-0</td>
<td>Others</td>
<td>Arts (50), Business (6), Civic (37), Public (18)</td>
</tr>
</tbody>
</table>

Table 5.8: The *degree centrality* score of *central connectors* of the *cultural ecosystem* in Columbus, Ohio

Figure 5.12 visualizes the distribution of *central connectors* in the *cultural ecosystem* network in Columbus. The node size represents the actor’s *degree centrality* score (number of connections). The largest nodes represent people who are considered to be actively engaging other actors in a network so as to communicate and access rich...
information. The node color is associated with the actor’s sector: red (arts), blue (business), civic (yellow), and public (green).

Of all the possible connections of 149, A6 and P2 had 10 connections. This indicates that these two actors had a relatively large number of relationships with other actors in Columbus’s arts and cultural scene. They were expected to be the ones who had the longest line of people waiting to meet them at an opening party or conference reception room. The presence of these actors with a relatively high number of connections indicates that the cultural ecosystem in Columbus has a potential for empowering its actors by drawing on large amount of information.
Figure 5.12: Central connectors in the cultural ecosystem in Columbus, Ohio
However, the immediate environment of connections of these *central connectors* illustrates a different scenario. As shown in Figure 5.13, P2 and A6 seemed to have a relationship with some particular sectors. P2 was likely to have a close relationship with actors from the public sector (state arts council and local arts council); while A6 tended to cluster with actors from the arts (flagship arts organizations) and civic sector (consultant, non-profit organizations, and the chamber of commerce). Based on these relationship, these actors could play a facilitator role by coordinating information and resource exchange within their network, while could not play a gatekeeper role that imports new ideas or perspectives from outside (Birk, 2005).
5.2.3.2 Quality of Information

Diversity

Since the cultural ecosystem is the composition of two sub-systems (cultural production-and policy support), it was assumed that the cultural ecosystem included a variety of actors from different sectors. Table 5.9 shows the distribution of sectors in the cultural ecosystem in Columbus, Ohio.
cultural ecosystem in Columbus. As discussed in the analysis of the cultural production and policy support system, few actors from the business sector had a connection to actors in the cultural ecosystem. While a relatively large number of actors from the civic sector were involved in the cultural ecosystem. The large participation of the civic sector indicates the potential for expanding stakeholders committed to cultural development efforts. The public sector showed a limited participation. Many actors were from the arts council; while the number of actors from government who had the authority to make key decisions was relatively small. Among the arts sector, actors of flagship organizations had maintained strong ties with one another and actively represented their interests and concerns, whereas most actors in the arts sector were mostly introverted. This could potentially lead to an uneven development in the arts sector.
Table 5.9: Breakdown of the sectors in the cultural ecosystem network in Columbus, Ohio

<table>
<thead>
<tr>
<th>Sector</th>
<th>Arts</th>
<th>Business</th>
<th>Civic</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of actors</td>
<td>42 (non-profit arts organizations) / 24 flagship + 16 small arts organizations + 2 artists</td>
<td>6 (large and medium size corporations)</td>
<td>10 (non-profit organizations)</td>
<td>7 (state arts council)</td>
</tr>
<tr>
<td></td>
<td>9 (for-profit arts enterprises) / 2 galleries + 7 design companies</td>
<td></td>
<td>5 (college professors)</td>
<td>8 (city arts council)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 (foundations, board members)</td>
<td>4 (councilmen, mayor)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 (chamber of commerce)</td>
<td>2 (local arts council)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 (consultant)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 (business consortium)</td>
<td></td>
</tr>
<tr>
<td>Total=51</td>
<td>Total=6</td>
<td>Total=26</td>
<td>Total=21</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.10 demonstrates the breakdown of information bases in the cultural ecosystem network in Columbus, Ohio. P2 had the highest degree centrality score, which indicates that P2 was considered to be the first call advice and consultation for any cultural policy initiative. Considering that P2 was identified as both the central connector and information base of the policy support system, P2 can be considered as what J. Scott (2000) called a “star”, the most influential actor in a network in terms of information distribution and problem solving. The presence of the “star” indicates that Columbus had a potential for effective collaborations among various actors, because the
actor could easily make people participate in community-wide efforts and successfully manage such efforts with his insights and expertise.

<table>
<thead>
<tr>
<th>Degree Centrality Score</th>
<th>Actor</th>
<th>Sector (Number of Actors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>P2 (state arts council)</td>
<td>Public (1)</td>
</tr>
<tr>
<td>5</td>
<td>A6 (flagship arts organization)</td>
<td>Arts (1)</td>
</tr>
<tr>
<td>4</td>
<td>P22 (city arts council)</td>
<td>Public (1)</td>
</tr>
<tr>
<td>3</td>
<td>A9, A10, A24, A49, P6, P8</td>
<td>Arts (4), Public (2)</td>
</tr>
<tr>
<td>2-0</td>
<td>Others</td>
<td>Arts (47), Business (6), Civic (38), Public (18)</td>
</tr>
</tbody>
</table>

Table 5.10: Breakdown of information bases of the cultural ecosystem network in Columbus, Ohio

Figure 5.14 visualizes the distribution of information bases in the cultural ecosystem network in Columbus. The size and color of the nodes correspond to the level of innovation-related information the actor has. As mentioned earlier, the degree centrality score of P2 indicates that P2 could act as an active broker between two sub-systems, however, P2 maintained his relationships within a limited boundary. This means that policy support for the arts sector could be provided in a polarized way. Suppose that A3 and A4 were all working at the development department in arts organizations, experiencing funding shortage, A4 could be better off because she could reach P2, the brain of the network. P2, working in public arts agency, could propose to establish a recovery fund to help A4. While A3 who was separated from the core
network would have relatively little chance to overcome challenges. This could lead to a “rich-get-richer phenomenon” (Giuliani, 2007, p. 164).

Figure 5.14: Information bases of the cultural ecosystem in Columbus, Ohio
5.3 Summary

This dissertation suggests that the presence of creative networks can increase the cultural capacity of a city by improving the content and quality of arts and culture. This can be achieved through a well-connected network structure and the active participation of network actors that facilitate the flow of valuable information in the cultural ecosystem.

In this chapter, two dimensions—cultural production- and policy support—of networks in the cultural ecosystem in Columbus were explored. From a network perspective, the potential of the cultural ecosystem to improve the cultural capacity of the city was assessed by using creative network indicators discussed in Chapter 3. Since the first step of network analysis is to ask subjects about their relationships with others in the network, the survey asked its participants to identify people they talk to about day-to-day businesses and complex problems in their field. Based on the data depicting those participants’ relationships to others, two aspects of networks—interconnectivity and quality of information—were examined. Note here, due to the time limit and resource constraints, the data used in the case analysis was extremely limited. Since the data analysis was based upon 55 actors, a part of the cultural ecosystem in Columbus, the results for the entire cultural ecosystem can be different from this study.

5.3.1 Interconnectivity

The network analysis of the cultural production system in Columbus showed that the system had a disconnected network structure with some non-overlapping cliques. This structure seemed to limit the speed and quantity of the information flow in the
because some actors of the separated cliques might not have a chance to access useful information in a timely manner. Since there was no distinctive central connector who was expected to actively facilitate the flow of information and allow actors to access diverse information, information in this network was assumed to be unevenly transferred. This could result in an information divide among actors in the cultural production system in Columbus, and further impede the production of creative works.

In contrast to actors of the cultural production system, actors of the policy support system in Columbus were all connected with no isolates. This network structure was assumed to bring as many resources as possible to policy decision-making and implementation process. The presence of a central connector was expected to establish new links among diverse actors from different sectors and help them involved in policy discussions. However, some actors from particular sectors had no connections to the central connector. These actors were assumed to be marginalized from participating in policy discussions and would not be better off.

5.3.2 Quality of Information

The cultural production system in Columbus was characterized by multi-sector participation. It included actors from all sectors that comprise the cultural ecosystem. In other words, a variety of information could spill over throughout the network. However, due to the disconnected network structure, the range of information transferred in this system was limited.

The introverted nature of actors was another reason that could impede the diffusion of diverse information in this network. Since most actors in the cultural
production system were not likely to actively interact with one another, and tended to talk to the people in the same sector, some actors in this network seemed to be disconnected from the core information. The lack of innovative guru also appeared to have a negative impact on building creative talent of actors in the cultural production system.

The policy support system in Columbus was composed of actors from some particular sectors (non-profit arts, civic, and public sector). In other words, information about potential business partners or the need of small arts organizations was not sufficient in this system. This indicates that in policy decision-making process in Columbus, only some selected actors could take advantage.

One interesting finding from the network analysis of the policy support system is that one actor, who was known to be the most linked in the system, was also identified to be the most helpful actor in solving complex problems in policy decision-making process. The presence of a “star” (J. Scott, 2000), who had a strong reputation for unique expertise as well as a wide relationship with other actors, indicates that the system had a potential for effective cultural policy environment by engaging as many actors as possible in policy discussion.

However, the network “star” was likely to be linked with only some selected actors. This indicates that policy making and implementation could be directed in a polarized manner. As long as the “star” does not create links to more various actors, some isolated actors in the cultural ecosystem may remain poorly connected to useful information and opportunity.

A general conclusion is evident from these results. The cultural ecosystem in Columbus, Ohio did not fully meet creative network requirements. In terms of the
cultural production, the mix of poorly connected network structure and few distinctive key actors of the cultural production system could result in an information divide in the system. Accordingly, some actors who were isolated from the mainstream network could eventually lose competitiveness in their field due to the lack of innovation-related information.

In terms of the policy support, actors of the policy support system were relatively well connected. However, as some actors from particular sectors held the majority of the system, voices of some actors could not be heard in policy decision-making process. The presence of a “star” could involve a large number of diverse resources in policy discussion as well as help guide important decisions in policy-making and implementation process. However, relying on a single individual might not be able to cover a variety of issues emerging in the cultural sector and make some selected actors take advantage of policy programs. In addition, weak ties between two sub-systems could lead to uneven policy strategies and cause limited opportunities for some actors.

As discussed in Chapter 3, in order to enhance cultural capacity, a city needs to meet two prerequisites: inter-personal (organizational) networks in the cultural production system and networked governance in the policy support system. These prerequisites are characterized by strong ties among actors with diverse resources and active information transfer that can result in effective problem solving and new idea creation. The results of the case study demonstrates that due to the disconnected network structure and introverted nature of actors along with weak ties between its sub-systems, the cultural ecosystem in Columbus appears to have a limited cultural capacity to fully mobilize arts and cultural resources.
CHAPTER 6

DISCUSSION

6.1. Introduction

This dissertation investigated the ways to improve city competitiveness through arts and culture from a network perspective. Supported by existing studies suggesting that networks are the key for innovation in the production- and policy support system (Ansell, 2000; Benner, 2003; Benz & Furst, 2002; Mackinnon et al., 2004; Malecki & Tootle, 1996; Parker, 2007; Rantisi, 2002; White, 2002), this dissertation used networks as a proxy to the cultural capacity of a city. A preliminary explanatory case study of networks among actors in the cultural ecosystem in Columbus, Ohio was provided.

The case study focused on identifying whether there exist creative networks in the cultural ecosystem in Columbus, Ohio. The term creative networks is defined here as communication channels among actors in the cultural ecosystem that contribute to promoting the performance of the actors through active information transfer that fosters problem solving and new idea creation. Creative networks are characterized by two features: well-connected network structure and transfer of valuable information that helps problem-solving and new idea creation. The presence of creative networks in the cultural ecosystem was considered to indicate the potential cultural capacity of a city capable of enhancing city competitiveness.
By using network analysis, interactions among actors in the cultural ecosystem in Columbus were explored in Chapter 5. Following previous studies that focus on the impact of networks on innovation (Birk, 2005; Giuliani, 2007; Quartman, 2005; Vogenbeck, 2006), this case study emphasized two major aspects of networks: interconnectivity and quality of information. Creative network indicators were used to examine whether the cultural ecosystem in Columbus is maintained by a well-connected network structure (density, cliques, and central connectors) and active participation of network actors that facilitate the flow of valuable information (diversity and information bases).

The case study revealed that actors in the cultural ecosystem in Columbus are, to some extent, actively interacting and transferring information through networks; however, it concluded that the cultural ecosystem in Columbus does not fully meet appropriate creative network requirements. The findings of this case study suggested that Columbus needs more strategic efforts to provide an information-rich environment for enhancing the city’s cultural capacity.

Section 6.2 revisits the research questions in light of the case study, followed by key findings and general conclusions. Section 6.3 provides policy recommendations for Columbus based on these findings and proposes an information-rich environment model. The chapter concludes with a discussion on the limitations of this study and suggests future research directions.

6.2 Key Findings

This section presents key findings of the case study by revisiting the research questions provided in Chapter 1. To find the factors that increase city competitiveness
through arts and culture, this dissertation developed a conceptual and methodological framework for the case study. This framework emphasizes the presence of creative networks in the cultural ecosystem as one of the elements that can enhance a city’s cultural capacity and further improve city competitiveness.

The concept of creative networks necessitated the examination of interactions among actors in the cultural ecosystem in a city. Based on the premise that active interactions among actors can generate innovation in the production of- and policy support for arts and culture through information transfer, creative networks are characterized by (1) a large number of connections among actors, (2) a continuous flow of information, (3) actors who facilitate information transfer by establishing linkages among actors, (4) a variety of information pulled from diverse sources, and (5) actors with unique and expert information useful for problem solving and new idea creation.

The following research question guided this dissertation: To what extent do actors in the cultural ecosystem interact with one another through networks? This question was supplemented by the five sub-questions listed below:

(1) How many connections are available among actors?
(2) To what extent are actors interconnected?
(3) To what extent do actors actively engage in bridging other actors?
(4) How diverse are the sectors to which actors belong?
(5) To what extent do actors actively engage in solving complex problems?

This dissertation selected Columbus, Ohio as the case study site to explore these research questions. To better understand the interactions among actors in the cultural ecosystem...
ecosystem in Columbus, it examined two dimensions of networks (cultural production- and policy support) in the cultural ecosystem in Columbus.

The first sub-question examined the density of the network. Density measures “the proportion of members who are tied with a positive relationship” (White, 2002, p. 261). Networks with higher density scores are considered to have many communication channels that contribute to increasing the “speed” of information transfer (Hannemann, 2008). The case study demonstrated that both sub-systems (cultural production- and policy support) had a relatively low density score. The low density score indicates that only a small number of actors in these networks could obtain information in a timely manner.

The second sub-question examined the number of cliques in the network. Cliques refer to “a subgroup of a network that is often made up of individuals who are homogeneous in some respect” (Birk, 2005, p. 50). The presence of cliques indicates that the network has a segmented structure (Wasserman & Faust, 1994). In other words, it prevents the continuous flow of information in the network.

In the case study, the cultural production system had a segmented network structure with some isolated cliques, while the policy support system had no isolates. The different network structure of these systems was assumed to result in a different flow of information. In the cultural production system, the disconnected network structure would not allow actors in isolated cliques to have a chance to reach others outside of their clique. Consequently, a large number of actors in this system would not be able to access important information offered by other actors because they had no linkages to key actors.
While actors in the policy support system could at least indirectly access all of the information provided by other actors.

The third sub-question examined central connectors in networks. Central connectors are characterized by their active participation in information transfer through creating a link between actors (Birk, 2005). Central connectors are identified by the number of connections that an actor maintains with other actors. If an actor has more connections than others, the actor “may have access to, and be able to call on more of the resources of the network as a whole” (Hanneman, 2008). Accordingly, a network with strong central connectors is considered to have a high potential for innovation because its central connectors contribute to maximizing the performance of actors by creating a link between the actors so as to provide them the best opportunity to access valuable information (Birk, 2005). The results of the case study show that both systems had one central connector. The central connectors in each system were likely to connect as many actors as possible, however, since these central connectors interacted with some selected actors in a limited boundary, other actors could be marginalized from information and opportunity.

The fourth sub-question examined the distribution of resources. The cultural production system included all actors from four sectors (arts, business, civic, and public), however, since some actors from the arts (for-profit and non-profit) sector tended to cluster themselves, actors in this system would not be able to fully access diverse resources. Meanwhile, the policy support system did not include actors from small arts organizations and the business sector. This indicates that the voices of some actors could not be heard in policy making and implementation process.
The fifth sub-question examined the presence of information bases, which refer to actors with unique and expert information that helps solve complex problems and provides innovative ideas (Birk, 2005). The lack of information bases with helpful information and expertise appeared to have a negative impact on producing creative cultural products and services and developing effective policy strategies.

The cultural ecosystem network in Columbus reflects the interaction of these two sub-systems. In terms of interconnectivity, the cultural ecosystem in Columbus was characterized by a disconnected network structure with some isolated cliques. Thus, this network would not be expected to have a fast and continuous flow of information. Except for very few actors who actively participated in establishing connections to other actors and exchanging a variety of information, most actors in this network seemed to be introverted in their information seeking activities.

In terms of the quality of information, the cultural ecosystem included various information sources from different sectors; however, due to the disconnected network structure, actors in this network would be able to access only a limited range of information. One actor was identified as a “star” with his large number of connections and expertise. This actor was expected to provide many actors with better opportunities to obtain quality information to maximize their capacity. However, this actor seemed to maintain his connections only with some selected actors, so that quality information in this network was assumed to be transferred in a polarized manner.

In sum, the results of the case study indicate that the cultural capacity of Columbus has yet to reach its full potential. As discussed in Chapter 3, two elements, inter-personal (organizational) network in the cultural production system and networked
governance in the *policy support system* are required in order to enhance the cultural capacity of a city. Characterized by the diffusion of valuable information through strong ties among actors based on trust, these two elements are considered to foster innovation in the production of—and policy support for arts and culture.

In terms of interconnectivity, the *cultural ecosystem network* in Columbus was characterized by a disconnected structure. This network was not expected to have a fast and continuous flow of information. Except for very few actors who actively participated in establishing connections to other actors and exchanging a variety of useful information, most actors in this network seemed to be introverted in their information seeking activities.

In terms of the quality of information, a limited participation of actors in networking activities was expected to result in the lack of diverse resources in the production of—and policy support for arts and culture. Some actors were trusted to have useful resources than others, however, since they were likely to maintain their connections only with selected actors, actors who were isolated from the core network might remain poorly connected to useful information and opportunity.

In general, the results of the case study provide a broad picture of the nature and state of networks in the *cultural ecosystem* in Columbus, Ohio. These results are important for this dissertation because they seem to be appropriate examples to discuss the theories about networks in the production-and support for arts and culture, provided the foundation for the conceptual framework for this dissertation.

Three conclusions emerge from these results. First, in the *cultural ecosystem* in Columbus, it is expected that actors who are extroverted in networking activities tend to
be more innovative than those who are not. Second, information or resource exchange through interactions among actors in the cultural ecosystem can be driven not only by a formal contract or partnership, but also by informal relationships such as friendship, reputation, or authority. Finally, interactions through networks that are embedded in a local cultural scene are expected to influence actors’ performance. Through the interactions, the cultural ecosystem can build up capacities for the production of, and support for arts and culture.

The results of the case study show that to some extent, the cultural capacity framework provided in this dissertation (see Chapter 3) can be a helpful tool in developing policy recommendations for a city’s arts and culture. By using interactions among actors in the cultural ecosystem as a lens to assess the potential for better performance, the framework helps identify problems in the cultural ecosystem by providing in-depth analyses through the deconstruction of the cultural ecosystem.

Meanwhile, the results of the case study also demonstrate limitations of the framework. Since the framework is built on theories that focus on the positive side of networks in building innovation capacity, it does not address the negative impact of networks in the cultural production- and policy support for arts and culture. As shown in the analysis of the central connectors and information bases, networks are helpful for some actors who are connected to key actors. However, some actors who are separated from the core network may remain disadvantaged either in their information seeking or in policy advocating activities. The presence of strong ties can make some actors better off, but at the same time prevent the flexibility that is needed to response to the changing need of the community.
6.3 Policy Recommendations for the Cultural Capacity of Columbus

The findings of the case study demonstrate that the factors that impeded information flow in the cultural ecosystem in Columbus seemed to be interdependent. In terms of interconnectivity, a large number of actors in the cultural ecosystem did not have a chance to attain useful information due to the poorly connected network structure. One of the main reasons for this network structure seemed to be the absence of strong central connectors. Some actors were identified as central connectors by their large number of connections in the cultural ecosystem network, while they were likely to associate with some selected actors in the network. Since they were not able to act as a hub or a gatekeeper to create linkages between actors in separate subgroups, some actors in this network would remain insular and isolated from valuable information.

In terms of the quality of information, the absence of strong central connectors was expected to cause uneven information transfer and result in an information divide in this network. In the cultural ecosystem network, only a few actors were identified as information bases who had a reputation in providing helpful solutions to other actors. Different from central connectors who actively participate in networking, information bases are not likely to make a new link with other actors (Giuliani, 2007). Therefore, in order to transfer their information to others, the role of central connectors in “[importing] new ideas and perspective from outside the network for problem solving and innovation” is critical (Birk, 2005, p. 146). However, since central connectors in the cultural ecosystem network transferred information in a limited boundary, most actors remained marginal from innovation-related information and expertise.
In this respect, the main problem that impedes the capacity of the cultural ecosystem network in Columbus seems to be the absence of strong central connectors who act as a hub or gatekeeper. To address this problem, this dissertation suggests that city-level efforts are needed to provide appropriate actions that supplement activities of central connectors. It recommends the creation of a sustainable information-rich environment that boosts interactions among actors for active information transfer. Table 6.1 summarizes the findings, meanings and implications of the case study that guide policy recommendations for enhancing the cultural capacity of Columbus.
The cultural ecosystem network had a disconnected structure with some isolated cliques. There were no attempts to create a link between isolated cliques. Some actors could be marginalized from useful information. Most actors could exchange information within limited boundaries. Appropriate actions that create a bridge between actors in an informal, relaxed atmosphere are needed.

Actors from some sectors (e.g., for-profit arts and business) did not have many connections to others. Very few actors had innovation-related information. Actors could access a limited range of information. Innovation-related information could be transferred in a polarized manner. Appropriate actions that provide access to useful information sources are needed.

From a network perspective, the cultural capacity of Columbus seems to be limited in fully mobilizing the city’s cultural resources because the city’s cultural ecosystem does not have a favorable structure that encourages active interactions among its actors. The results of the case study demonstrate that the absence of a hub or a gatekeeper is the main reason that resulted in the limited cultural capacity. To address
this problem, this dissertation proposes that the creation of a sustainable information-rich environment for actors in the cultural ecosystem be the primary action to enhance the cultural capacity of Columbus. The information-rich environment is characterized by broad access to information that allows actors in the cultural ecosystem to stay connected and well informed. This section discusses the ways to provide an information-rich environment, focusing on its two basic elements: informal-and formal information channels. These elements can stimulate information transfer among actors in the cultural ecosystem and maximize the performance of those actors.

The efforts to increase informal communication channels are closely related to create a “buzz” (Storper & Venables, 2004). Storper and Venables (2004) coined the term “buzz” to refer to the face-to-face information and communication that people and firms in the same industry or region exchange. The main feature of buzz is “face-to-face contact” (Storper & Venables, 2004, p. 365). It includes all kinds of non-designed and non-structured communication, such as chatting and gossiping in a café or brainstorming and having in-depth discussions at after-business meetings (Bathelt et al., 2004). However, buzz does not occur from just “saying hello” to neighbors (Bathelt et al., p. 38). A buzz environment is most likely developed from the local industrial cluster, “which has a rich history of social interaction and offers opportunities for multiplex relationships, face-to-face contacts and meetings” (Bathelt et al., p. 39).

The literature on cluster-based innovation supports this argument (Bathelt et al. 2004; Camagni,1991; Keeble et al., 1999; Maillat, 1998; Morgan & Nauwelaers, 1999; Porter 1990; Scott, 1988; Storper, 1995; Sweeney, 1996). In his study of small firms in the Third Italy, Sweeney (1996) argues that the structure of local industrial districts
stimulates information transfer, because “each firm shares information and work, each helping the other, passing on market, design, and technical knowledge quickly and efficiently through their personal interrelationships” (p. 16).

Scott (1988) asserts that “tangled informal networks of useful knowledge about production methods, business conditions, and employee practices” that are embedded in industrial clusters are beneficial to innovation processes (p. 39). Bathelt et al. (2004) note that some places are more innovative than others because “there are lots of piquant and useful things going on simultaneously and therefore lots of inspiration and information to receive for the perceptive local actors” (p. 38). Keeble and colleagues (1999) discuss the importance of social relationships among cluster actors in stimulating diffusion of knowledge through trust and cooperation.

In this regard, a creation of cultural districts, in which actors of the cultural system can benefit from tacit knowledge gained through frequent face-to-face contacts, can be one way to stimulate learning and innovation in the cultural sector. Serving as a center for all the new information about the field, from everyday gossip to new government policies, cultural districts enable network actors to “interact and cooperate with other high-ability people…communicate complex ideas with them, and are highly motivated” (Storper & Venables, 2004, p. 365).

In sum, the creation of a buzz environment that emphasizes cluster-based networking activities can update actors in the cultural ecosystem with current information about industry trend, government activities, new technologies, and marketing strategies. A more exclusive advantage of such an environment is that actors are not required to
participate in any particular activities. They can be connected and informed by “just being there” (Gertler, 1995, cited in Bathelt et al., 2004, p. 38).

However, the cluster-based buzz creation may not be beneficial for individuals who are “introverted” in their information-seeking behavior, that is, having difficulty obtaining information from external sources including personal and impersonal (Malecki & Poehling, 1999, p. 250). In this situation, the role of “quasi-public centers” (e.g., private consultant or local arts council), as a “gatekeeper” who provides linkages to isolated actors from existing networks, is significant in maintaining the flow of important information (Malecki & Tootle, 1996, p. 51). Considering that most actors in the cultural ecosystem were found to be introverted in the case study, more pre-planned, directed formal networking initiatives are required.

Studies of urban regime provide evidence of the benefits of the formal, contractual relationships in information exchange and innovation (Davies, 2001, DiGaetano & Lawless, 1999; Mossberger & Stoker, 2001; Stone & Sanders, 1987; Stone, 1998). These works largely spotlight the importance of collaboration among non-profit organizations, for-profit businesses, and public institutions in a city’s economic development. DiGaetano (1997) argues that public-private interactions help cities create a condition to achieve desired policy outcomes through a cross-sector mobilization. Stone’s (1998) work on education coalition in U.S. cities demonstrates that regime is a comprehensive approach to capacity building for issues related to overall change in a city. Joint projects between arts-and cultural production organizations or public-private partnerships for urban development are conventional examples of these formal networks. In this case, associations, advocacy groups, the chamber of commerce, arts-and cultural
events, or university conferences can serve as bridges for information exchange among actors.

While regime is built on formal relationships, it can provide a balanced mix of formal and informal communication channels. As Malecki and Tootle (1996) point out, besides discussions and information provided during regular meetings, conversations at coffee breaks or at a bar after a meeting in turn serve to generate and diffuse buzz. Consequently, a continuous participation in these activities may gradually develop into trust-based, long-term informal relationships (Malecki & Tootle, 1996).

Based on the discussions above, in order to enhance the cultural capacity of Columbus, Ohio, this dissertation recommends that the city needs to create an information-rich environment. In order to build an information-rich environment, active informal- and formal linkages through local cluster building and strategic partnerships need to be provided. Meanwhile, such efforts to establish informal- and formal linkages must be developed and implemented by institutions that embody a particular type of networked structure, so-called “networked governance” (Parker, 2007).

This type of governance involves relevant actors from all sectors (arts, business, civic, public) in the policy decision-making and implementation process (Davies, 2001). These actors bring their expertise into effective policy-making and at the same time act as community contacts so that policy makers can gather information and respond to different needs. Therefore, networked governance allows the city to renovate its structural context for policy-making and implementation and to fully mobilize its resources for a better outcome.
6.4 Limitations of the Study

The relationships among actors, not individuals or events constitute the unit of analysis in network studies (J. Scott, 2000). Therefore, as Quatman (2006) notes, limitations of network studies are often related to the selection of the relationships that reflect the circumstances under which a study is conducted. While the data gathering and interpretation process of this dissertation was determined through a review of the relevant theoretical and methodological approaches, this dissertation faced the following limitations.
First, the case study of this dissertation used a small data set due to the low response rate and time constraints. As the data collection process stopped at identifying the second group’s network relationships, the analysis was based upon a part of the cultural ecosystem network in Columbus. Therefore, it is not expected to obtain the same results for the entire network. Also, since this dissertation conveyed only limited and imperfect information about the cultural ecosystem network in Columbus, the results provided here are not intended to allow for generalizations about all cases of networks in Columbus. Rather, the results of this study can serve as an exploratory resource for policy recommendations and future research. If more data could be obtained, the results of the case analysis would be more representative than the current study.

Second, in the data gathering process, it was possible that the survey participants did not identify their network relationships correctly. This could result in different survey results. To address this problem, as suggested by Birk (2005), “member checks of the results in a follow-up focus group” are recommended for future research.

Finally, this dissertation concentrated on tracing and visualizing the information flow in the cultural ecosystem. The case analysis did not fully describe who was talking to whom or what kind of information was exchanged with what kind of purposes. If more qualitative descriptions could be added, the results of the analysis would be more effective tool to understand the impact of networks in building cultural capacity.

6.5 Recommendations for Future Research

Some possible research topics for future research were identified. First, this dissertation recommends developing performance indicators for actors in the cultural ecosystem. Due to its exploratory nature, this dissertation did not provide sufficient
information on the causal relationship between networks and performance of actors in the cultural ecosystem. Performance indicators help assess the impact of networks and resulting changes on the performance of actors.

Second, there is a need for longitudinal studies to trace changes in networks. Since this dissertation demonstrated a snapshot of networks during a short time period, it was not possible to examine the change of the nature and structure of the network over time. In this regard, longitudinal studies that evaluate the effect of policy intervention designed to encourage and facilitate networking activities in a city’s cultural ecosystem can help examine the impact of networks on the cultural capacity of a city.

Third, the findings of this dissertation address a need for more integrated model for assessing the cultural capacity of a city. Since the findings of this dissertation focuses on visualizing the flow of information in the cultural ecosystem using the network dataset, more qualitative factors such as individual actor’s characteristics or motivation, or the content of information were missing. By integrating these factors into the framework, we can better understand the factors that enhance the capacity the cultural ecosystem. Also, this dissertation focuses on the positive impact of network on the cultural capacity of a city. Considering that the results of the case study demonstrate the drawbacks of networks in the production of and support for arts and culture, a more considerations of the implication of networks in the study of actors involved in the cultural sector.

Finally, while this dissertation’s unit of analysis was the cultural ecosystem in Columbus, the conceptual and methodological framework developed in this dissertation can be applied to different contexts. Comparative studies of networks in the cultural
*ecosystem* in other cities can contribute to better understanding of the structure of the
*cultural ecosystem* in general, and developing effective cultural policy strategies.
APPENDIX A

INTERVIEW CONSENT FORM

Project # 2008E0468

1. Introduction
This is a social network study in which the researcher will try to map out networks of the cultural sector in Columbus.

2. Goals
The academic goal of this study is to understand to what extent actors in the cultural sector in Columbus are interconnected one another.

3. Procedures
You will be asked to fill out a survey about whom you interact with. It should take about 15 minutes to complete. Once the data have been collected, I will construct network maps like this one:

Once I have a network map, I will calculate the number of connections among actors in the network, and the number of key actors those who have helpful resources such as political authority or expert knowledge. Note that the map does not contain each person’s name. The survey data will be stored using alphanumeric codes. All the information from the survey will not be shared by any other person and remain confidential.

4. Individual benefits
I will provide you with a summary of the results—the network map of the cultural sector in Columbus.

5. Withdrawal from the study
You may choose to stop your participation in this study at any time. If so, you will not appear on any of the social network maps and no metrics will be calculated that involve you.

6. Confidentiality
As explained above, your participation will be anonymous and the data will be kept confidential. Any publicly available analyses of these data will not identify any individuals, nor identify any organizations.
7. Participant’s certification

I consent to participate this study entitled: “Networks of the Cultural Sector in Columbus”. Minha Lee has explained the purpose of this study, the procedures to be followed, and the expected duration of my participation. I acknowledge that I have had the opportunity to obtain additional information regarding this study and that any questions I have raised have been answered to my full satisfaction. Furthermore, I am free to withdraw consent at any time and to discontinue participation in this study without prejudice to me.

Date: __________________________

Signed: ______________________________
Dear Colleagues,

As a key actor of the cultural sector in Columbus, you are invited to participate in a survey study, “Networks of the Cultural Sector in Columbus”. This study is being conducted by Minha Lee, a doctoral student at the Ohio State University under the supervision of Dr. Margaret J. Wyszomirski and Dr. Wayne P. Lawson from the Department of Art Education. This study will be used as the basis for Minha Lee’s doctoral dissertation.

Every year, newspapers and magazines announce city rankings in diverse fields, such as “best places to live”, “hottest cities”, and “best cities for businesses”. Interestingly, most of the criteria for selection in the city rankings include a rich arts and cultural environment as “must have items” for top cities. The purpose of this study is to identify factors that help create a favorable environment for arts and cultural activities. Based on the literature suggesting that active interactions among actors in the cultural sector foster a vibrant arts and cultural environment, this study will explore networks of the cultural sector in Columbus.

Please take a few minutes to fill out the enclosed survey. The survey has a short questionnaire that asks you to identify people who have a relationship (e.g. policy-making relationship or business partnership) with you. I plan to use the results of the survey to draw a network map that visualizes the interconnectedness of actors of the cultural sector in Columbus. Using the network map, I will look at the number of connections among actors of the Columbus cultural sector. In addition, I will examine how many key actors (those who have helpful resources such as political authority or expert knowledge that helps solve complex problems in the field) the Columbus cultural sector has. The number of connections and key actors will be helpful for assessing how networks of the cultural sector are contributing to the cultural development of Columbus.

Your participation is voluntary. Please read the attached consent form carefully. I guarantee that all the information collected will remain confidential and neither any individuals nor organizations will be identified in any publicly available analyses of the information. If you agree to participate, please sign and date the consent form.

The survey should take you about 15 minutes to complete. I hope you will take the time to complete the survey. Please return the survey and the consent form by September 25th, 2008 (a stamped return envelope is enclosed). You may choose to stop your participation in the survey at any time. If so, you will not appear on any of the network maps and no metrics will be calculated that involve you. Regardless of whether you choose to participate, please let me know if you would like a summary of the results.

If you have any questions or concerns about completing the questionnaire or about being in this study, you may contact Minha Lee at lee.2552@osu.edu or 614-256-5525. If you have any concerns about your rights
as a participant in this study you may contact the Office of Responsible Research Practices by telephone at 614-688-8457.

Sincerely,
Minha Lee

Interview Protocol for Cultural Production System

Thank you for agreeing to complete the survey – I value your time and your responses! The survey has 4 questions and should take less than 15 minutes of your very valuable time. Your answers to the questions will allow me to visually map out the interconnectedness of actors of the cultural sector in Columbus.

The survey data will be coded to maintain confidentiality. Any publicly available analyses based on the survey data will NOT identify any individuals or organizations. Please note that participation in the study is voluntary. You may choose to stop your participation at any time. If so, you will not appear on any of the social network maps and no metrics will be calculated that involve you.

1. What is the budget of your organization?

2. Please identify three people who are important to you in the arts world in Columbus. These can be people who provide information, or expert advice or personal/organizational support. These may or may not come from your organization.

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person 1</td>
<td></td>
</tr>
<tr>
<td>Person 2</td>
<td></td>
</tr>
<tr>
<td>Person 3</td>
<td></td>
</tr>
</tbody>
</table>

3. For a person you identified in Question 2, please indicate the primary benefit that you currently receive from him or her.

<table>
<thead>
<tr>
<th>For the community</th>
<th>a. Information that helps find new opportunities and/or addresses challenges in the arts world in Columbus.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Financial support that helps move the community cultural plan ahead.</td>
</tr>
<tr>
<td></td>
<td>c. Political action that helps move the community cultural plan ahead.</td>
</tr>
<tr>
<td>For your</td>
<td>d. Policy advice that affects my business/organization’s interests.</td>
</tr>
</tbody>
</table>
4. For people you identified in Question 2, please indicate one person to whom you most often turn for advice on complex problems which require in-depth knowledge or extensive experience.

[Name]                             [Organization]

Thank you for taking part in the survey. You may be assured that your responses will be related in strict confidence.

Would you like a summary of the findings?       Yes       No

Are you willing to participate in a follow-up survey?   Yes       No

Interview Protocol for Policy Support System

Thank you for agreeing to complete the survey – I value your time and your responses! The survey has 3 questions and should take less than 15 minutes of your very valuable time. Your answers to the questions will allow me to visually map out the interconnectedness of actors of the cultural sector in Columbus.

The survey data will be coded to maintain confidentiality. Any publicly available analyses based on the survey data will NOT identify any individuals or organizations. Please note that
participation in the study is voluntary. You may choose to stop your participation at any time. If so, you will not appear on any of the network maps and no metrics will be calculated that involve you.

1. Please identify three people who are important to you in the arts and culture of Columbus. These can be people who provide information or expert advice, or have a professional/policy making relationship with you. These may or may not come from within your organization.

   [Name]                          [Organization]
Person 1
Person 2
Person 3

2. For a person you identified in Question 1, please indicate the primary benefit that you currently receive from him or her.

<table>
<thead>
<tr>
<th>For the community</th>
<th>a. Information that helps find new opportunities and/or addresses challenges in the arts and culture of Columbus.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Financial support that moves the community cultural policy agenda ahead.</td>
</tr>
<tr>
<td></td>
<td>c. Political action that moves the community cultural policy agenda ahead.</td>
</tr>
<tr>
<td></td>
<td>d. Having a disagreement with me about cultural policy issues, but providing appropriate feedback that broadens the community cultural policy agenda.</td>
</tr>
<tr>
<td></td>
<td>e. Having a partnership on a particular project.</td>
</tr>
<tr>
<td>For your organization</td>
<td>f. Policy advice that affects my organization’s interests.</td>
</tr>
<tr>
<td></td>
<td>g. Financial support that advances my organization’s interests.</td>
</tr>
<tr>
<td>For yourself</td>
<td>h. Personal support to discuss a problem in my work or daily life.</td>
</tr>
</tbody>
</table>

Person 1   a                  b                  c                  d                  e                  f                  g                h
Others (Please specify):

Person 2   a                  b                  c                  d                  e                  f                  g                h
Others (Please specify):

Person 3   a                  b                  c                  d                  e                  f                  g                h
Others (Please specify):

3. For people you identified in Question 1, please indicate one person to whom you most often turn for advice on complex problems which require in-depth knowledge or extensive experience.

   [Name]                          [Organization]
Thank you for taking part in the survey. You may be assured that your responses will be related in strict confidence.

Would you like a summary of the findings?   Yes   No
Are you willing to participate in a follow-up survey?   Yes   No
LIST OF REFERENCES


Pratt, A. (2002). Hot jobs in cool places. The material cultures of new media product


