

Towards An Urban Art Economy: How Flagship Art-Based Initiatives Start the Engine of City Growth After the De-Industrialization Transformation

Ke, Renfeng
Taipei Art Economy Research Centre, TAGA
Taipei, Taiwan
taerc.renfeng@gmail.com

Abstract

The relationship between the cultural creative industry and urban regeneration is not only a topic frequently touched upon by heads of state and cultural ministers and in texts covering urban renewal but it is also an issue widely-discussed in the context of sustainable development. This paper will provide an introduction to flagship art-based initiatives and report the results garnered from the impact assessment on the economic regeneration of the entire region. By choosing two significant cases located in two separate cities in Germany – dOCUMENTA in Kassel and ZKM in Karlsruhe, this research will employ metrology methods and econometric approaches to identify and analyze the structure behind an Urban Art Economy.

Keywords: urban art economy, art-based initiatives, industrial heritage, de-industrialized

Introduction

In today's complex urban landscape, the arts provide a new 'territory' to make a distinctive contribution to the creation and development of the emotive and energetic characteristics of cities. Beginning with the notion of Art-Based Initiatives (ABIs), in terms of artistic interventions in organizations, it brings people, processes and products from the world of arts into the workplace, gradually serves important functions within the art industry. According to Schiuma (2011), the influence of ABIs can be addressed as a planned managerial use of art forms with the aim of developing employees and infrastructure that affects the organizational value-creation capacity. Economically, the examples of ABIs within a city can be range from the use of art forms to certain economically-integrated collections of festivals, biennales, museums, and etc., they are all considered centers that generate significant economic impact, and the value of which exceeds the purely economic.

Flagship art-based initiatives have the potential to form the fundamental basis of urban economies, which contribute to the well-being and prosperity of a city in a number of different ways. In this study, the notion of urban art economy refers to the condition where ABIs utilize related quantitative methods and models on resource employment and benefit distribution to analyze the economic impacts on regional economy produced from operating performance. By selecting specific cases to present an analysis of the economic structure, this study probes into the three different dimensions of "endowment of resources," "resource integration," and "effect momentum" while also pinpointing the scope of thinking in an attempt to explore the relationships between involved research subjects, understanding their relative positioning before, during, and after the post-industrial era provides important evidence on emerging shifts which concludes with some policy implications and directions for future research.

This report consists of two parts:

Section A provides is a survey of government measures carried out to increase awareness of economic activities in the domain of culture and also examines how those activities generally play a key role, contributing to the global de-industrialized transformation.

Section B investigates in greater detail the experience of two case study cities in facilitating flagship art-based initiatives, looking at how these initiatives contributed to the economic effectiveness of the city as well as how the city can become a more viable and sustainable place to live and work. The cities selected are Kassel and Karlsruhe in Germany.

The study employs results from case analysis, semi-structured interviews, cost effectiveness analysis, and log-linear models to examine data on economic output, employment, gross revenue, tourism revenue (admission revenue from museums and other revenues generated by tourism) from the two cities in question between 1995 and 2010.

Section A: Theory Overview

In recent years, “cultural governance” has become a concept frequently used in cultural studies and cultural policies. In the past, governance possessed a negative connotation where it was regarded as an institution usurped by the state and its ruling class to convey ideology as well as an apparatus to realize social control. After the cultural turn theory gained momentum, paradigm shifts occurred in theories and analyses regarding cultural/social science. As a result, “culture and art,” which had long been a marginal issue in policy formation, found its place at the core of decisions within the dimensions of politics, economy, and societal affairs. The introduction of cultural governance makes it possible to conduct an examination of national and local cultural policies. This study specifies cultural governance as the domain for cultural policy in an attempt to comprehend how our economy has been impacted by the current cultural policy along with strategies and measures dealing with cultural commodities (including those involving production and distribution). Furthermore, this research will also attempt to understand how the government is affected by the overall economy in the domain of cultural governance, and how the switch of power between the ruling party and private sectors could occur in the process.

In regards to the administration, allocation, and management of cultural art resources, the government usually stresses “high-class” culture or “pure art” when formulating cultural policies from the stance of cultural governance. Such “high-class” institutions include concert halls, auditoriums, museums, libraries, museums of history, and educational institutions (Moon, 2001:433). On the other hand, even though modern governments recognize cultural affairs as an inseparable element of citizens’ quality of social life, 21st century governments are generally affected by economic circumstances. Even though this is the case, governments are still placed in a dynamic position to deal with affairs of cultural governance. Discourses on cultural economy since the advent of liberalism, with the movement from authority-centralization to neo-liberalism as the backdrop, have undergone substantial transformations as regulations involving expenditures and taxations have edged toward minimalism whilst the propositions regarding a welfare state or privatization have been rescinded. After the economic recession that took place in 1960s and 1970s and the Reagan Doctrine and Thatcherism of the 1980s, governments around the world have become less enthusiastic when it comes to supporting cultural affairs, which led to an age of market-driven governance instead of government-driven governance. The ratio of support for cultural and art affairs provided by the government and enterprises has altered remarkably.

Economic Activities in the Domain of Culture and Arts

The concept of the role of culture in economic development has not received much attention prior to the 21st century. As cultural studies started to cite neo-liberalism as a meta-concept in critical theory, society then began to consider culture as a type of capital. In their co-authored book, *Cultural Reproduction and Social Reproduction* (1973), P. Bourdieu and Jean-Claude Passeron coined the term “cultural capital” to articulate how culture and economy form a correlative relation.

In the humanities and social science, the study on the term “culture” has the inclination to stress the contradictions and conflicts that arise from cultural and societal differences, which has consequently triggered the rise of cultural issues concerning identity. As the index of cultural difference grows, cultural conflict and cultural antithesis have remained favored topics in multiple discourses. On the other hand,

cultural economy includes culture within the realm of economy and expounds the relationship between culture and economy based on the theory of “ensemble of social relationships” initiated by Karl Marx.

In the theoretical analysis, cultural economy must be considered in light of historical transformation, conceptual distinction, and societal differentiation. Before the formation of the concept of cultural economy, it was already immensely influenced by political economy, sociology and post-modernism. After the concept reached a point of maturity, it became widely associated with other fields of knowledge, including cultural economic geography, creative industries, the culture of service industries, and cultural policy. Cultural economy is also closely intertwined with creative economy, which did not appear until recently (Flew, 2009).

The Economic Discourse of Cultural Policy — from "Culture Industry Reconsidered" to Creative Industries

While neo-liberalism postulates that individuals have the autonomy and capacity to choose cultural products or activities in a market mechanism, beginning in the late 1940s, the Frankfurt School began critiquing the concept of instrumental reason as well as the underpinnings behind a reconstruction of substantive rationality for contemporary capitalism culture and ideology, a string of dialectics that lasted until the end of the 20th century. Yet 1994 saw a turning point when the Australian government proposed the term of “creative industries” within major policy initiatives such as Creative Nation. Three years later in 1997, Britain’s Labor Party declared “creative industries” as a mainstream concern within national policies. The next year, DCMS established the Creative Industries Task Force, which submitted the “Creative Industries Mapping Documents” in 1998 and 2001 respectively (DCMS: 2008, 2001). The French government followed suit and started to view cultural industries as a series of economic activities, in which ideas and creativity give birth to cultural commodities featuring commercial characteristics under industrial manufacturing¹. A couple years later, countries across the globe, especially European countries and the US, have all included cultural creative industry into their guidelines for national development, underlining the key influential power that creative and cultural activities exert over industry transformation while accentuating the discourses surrounding cultural and creative industries. A cultural economics discourse viewing regional economy as the core of the development of national industries has thus unfolded.

Scholars belonging to the Frankfurt School such as Theodor L. W. Adorno and M. Max Horkheimer propounded the concept of cultural industry and criticized the commoditization and standardization of public culture in a capitalist society. Towards the end of 1960, the notion of “cultural industry” was introduced into the domain of politics, generating policy-related discourses. Thus, “cultural industry” became a more neutral concept after the cultural turn when plutologists started to ponder the structure of cultural industries (UNESCO, 2006). In the 1970s and 1980s, an increasing number of countries incorporated this perspective into their cultural policies and placed cultural industries at the top of their agendas. Subsequently, creative industries came to be included within the strategic planning for national development (Garnham, 2005; Throsby, 2008).

Other scholars compiled models of the development involving cultural industries (Throsby, 2008) and borrowed concepts within the theory of economics (from industrial organization theory, value chain analysis,

¹ Département des études, de la prospective et des statistiques (2006) 《Aperçu statistique des industries culturelle》 No.6, p7.

inter-industry analysis, and location analysis to contract theory and property rights, trade and development, urban design and economic geography) to calculate the output of these industries.

Establishing the Method to Evaluate the Art Economic Effect

According to Radich (1987), the influence of economic power can be delineated into two spheres: the micro-level and macro-level. The micro-level involves consumers, enterprises, marketplace, and the economic behavior of industries. The macro-level covers national wealth, revenue, capital, and the employed population. In 1997, the European Taskforce on Culture and Development defined the contributions made by art and culture as direct and indirect economic impact.

Notwithstanding of all this, the evaluation methods for art economy have seen remarkable development ever since. The international standardization of cultural statistics has changed the construction of data and the statistical framework, in turn forming the foundation for cultural indicators. UNESCO's cultural statistics project and the EU's statistics project are both examples of this. While Britain has not been involved in the analysis of economic influence for as long as the US, it has still reaped considerable benefits in terms of research results and collected a significant amount of statistics since the latter part of the 1980s. These include data on the employed population, turnover, consumption index, export and import profits, audience size, tax revenue, and outside investments, and based on this, British scholars have thus built a calculative model involving quantitative analysis, financial survey model, input-output model, production chain model, etc. In 2000, Kelly A. and Kelly M. concluded an evaluation form in 12 operating items: organization, income, outgoing, capital improvements, attendances and performances, staffing, social capital, current and future plans and challenges, cultural benefits and impact, building and developing communities, social change and public awareness, human capital. Other common evaluation tools include the balanced scorecard, best value and performance indicators, benchmarking, etc.

Section B. Flagship Art-Based Initiatives: Case Studies

This section investigates in greater detail the experience of two case-study cities in facilitating flagship art-based initiatives, looking at how these initiatives contributed to the economic effectiveness of the city as well as how the city can become a more viable and sustainable place to live and work. The cities selected are Kassel and Karlsruhe in Germany. The study employs results from case analysis, semi-structured interviews, cost effectiveness analysis, and log-linear models to examine data on economic output, employment, gross revenue, tourism revenue (admission revenue from museums and other revenues generated by tourism) from the two cities in question between 1995 and 2010 while also illustrating the main takeaway lessons from the three key areas that emerge from examining these case studies.

Case Study 1. ZKM | Center for Art and Media

With ZKM as the case subject, this study conducted an analysis of the structure of art economy from three dimensions, which are namely “endowment of resources,” “resource integration,” and “effect momentum.”

1. Endowment of Resources

The ZKM | Center for Art and Media (ZKM) is located in Karlsruhe, Germany and was founded with the mission of taking existing interactions of classical and technical arts into the digital age and exploring the relations between new technologies and fine arts and its influence for humanity and society. Since the first computer was unveiled to the public in the mid-1980s, German artists have started using new digital technologies for their artworks. Karlsruhe has long been considered an important city in Germany for technology and industry. With this geographical advantage and the initiation by a group of professors of science, art galleries, artists and musicians, the concept of the ZKM Center for Art and Media has been proposed jointly with the concept of citizenship. The idea was approved and supported by Lothar Späth, senior officer of the State of Baden-Württemberg. In 1997, ZKM moved into new laboratory and exhibition premises, which was a former munitions factory. The ZKM transformed from a productive institution into a public institution and became opened to the public in 1997 and has officially been in operation since 1999. Since then, ZKM continues to expand its collections using its geographical and industrial advantages to seek a balance between the arts and technology. Now with its two museums and around 20 institutions, ZKM has indeed enriched much of the city of Karlsruhe.

2. Resource Integration

With ZKM as the case subject, this study conducted an analysis of the structure of art economics from four dimensions of “Structural Capital,” “Financial Capital,” “Human Capital,” and “Relations Capital.”

2.1 Structural Capital

According to the agreement, the city government of Karlsruhe and the state of Baden-Württemberg should jointly fund the ZKM for its establishment and operation. A working committee was established in 1986 by the

related research institutions of Karlsruhe and Baden-Württemberg. After years of planning, ZKM was officially established in 1989. In the beginning, the ZKM Institute for Visual Media, Institute for Music and Acoustics, and the administration department were located in various buildings around the city. Before ZKM even had a permanent building, Jeffrey Shaw, the director and founder of the ZKM Institute for Visual Media, and the organization prepared several exhibitions for the citizens of Karlsruhe, introducing media arts and interactivity into public spaces. In 1992, their first exhibition, *Bitte Berühren* (Please Touch), was held in the crypt of an evangelical church Karlsruhe. At the same time, artists were also invited to Karlsruhe to create art under the aegis of ZKM, and studio spaces were built where possible. At *Multimediale 3* in 1993, the first series of ZKM productions were showcased in an exhibition called *NewFoundland*. Meanwhile, construction for a new centre broke ground in 1993, wrapping up in 1997. ZKM, as it is known today, consists of seven departments—the Museum of Contemporary Art, the Media Museum, the Media Library, the Media Theatre, the Institute for Visual Media, the Institute for Net Developments, and the Institute for Music and Acoustics—that work together to further research and development in media arts. The entire organization occupies a massive, former munitions factory renovated to house ample exhibition spaces, a media lab, offices, and a theatre space. Unlike general museums, ZKM, functioning as a museum, institution, and an organization for technological research and development, is simultaneously a museum, an institution, and a space for creating artworks.

Table 1. Statistics of Collections in ZKM | Media Library

Year	Collections			Attendance
	Total Numbers	Categories		
		Books	CDs & DVDs	
2001	29,613	29,015	598	7,393
2002	31,465	30,762	703	8,371
2003	33,344	32,469	875	8,219
2004	35,935	34,931	1,004	8,141
2005	38,450	37,396	1,054	8,142
2006	40,587	39,411	1,176	8,150
2007	43,173 ¹⁾	41,899	1,274	7,942
2008	45,672	44,248	1,424	8,509
2009	47,544	46,040	1,504	10,639
2010	50,183	48,534	1,649	9,342
2011	52,994	51,170	1,824	9,435

Source : SISK - Statistisches Informationssystem Karlsruhe; Library of ZKM and Karlsruhe College of Arts and Design (update: 2012.03. 27).

The ZKM organization can be divided into four departments: Research and Production, Museum and Exhibition, Archive and Communication, and Administration and Central Services. The department of Research and Production includes the Institute of Visual Media, Institute of Music and Acoustics, and the Institute for Media, Education and Economics. The department of Museum and Exhibition includes the Museum of Contemporary Art and the Media Museum. The department of Archive and Communication includes the Media Library and Publications.

Due to these special features and organization, ZKM has seen both groundbreaking achievements in media art creativity and media technology research and development. A representative of the museum said that these features makes this place not only a place for creative works but also a high quality new media forum. All of the on-site creators share resources, brainstorm with each others, and exchange their opinions. These invisible creative properties cannot be provided by a traditional museum or gallery.

2.2 Financial Capital

“With the fixed annual budget, we will raise more funds of about 10% to 20% from sponsors, though it is not easy to ask for such funds due to the taxation system in Germany.”

— Christiane Riedel, General Manager of ZKM

The annual budget of ZKM consists of three parts, two-thirds of which are fixed expenditures allotted for personal resources, central services, building/facility management and storage, while the other one-third is spent on respective projects. The Center has made effort to reduce its ever-increasing fixed expenditures in an attempt to keep flexibility within the budget for projects. Put differently, ZKM's annual operating budget is around €15 million to €16 million (roughly over NT\$500 million), one-third of which is spent on annual projects. Thus, other sources of funding are required to support the purchase of collections for the two museums, creation and instructional programs of the art center and research institution, media library and video labs, as well as insurance, transportation, restoration, publishing, marketing, and public relations. ZKM can only seek fund-raising options for the aforementioned items included in annual projects or science or art special programs. The total amount of the yearly project budget ranges from €1 million to €3 million, which does not include subsidies from the city government and federal government.

2.3 Human Capital

Two-thirds of the staff at ZKM are regular employees, whereas the remaining one-third are contract workers. The director of the museum and CEO are hired on a five-year contract basis in an attempt to maintain flexibility within staffing. This explains why ZKM since its founding has continued as an innovative force within the field of art.

2.4 Relationship Capital

A. Local Industries

In Karlsruhe, both big firms and small firms have remarkable energy for innovation. Universities in Karlsruhe have also taken the lead in IT and computer technology as this is one of their areas of expertise. Hence, as an extension to these universities, these firms have seen a conspicuous growth, making Karlsruhe a preeminent city in the development of IT and computer technology industry².

“...After a period of stable development, these old firms were faced with an impediment in R&D and technological innovation, and they decided to welcome new talents into their companies. These giants thought that by building a cooperative relationship with new talents, they could gain access to resources or professionals in Berlin or other international cities. And they did form very close relations with new talents of the industries, getting financial support (not necessarily money) on the basis of a dynamic model. This is the environment in which ZKM prospers....”

...The founder of the ZKM once raised a question: ‘How could culture find its place in this economic transformation brought by a technology boom?’ The conception hidden behind this question was the standing point for the ZKM, and has indirectly impacted the formation and structure of this organization till the present day....”

Christiane Riedel, General Manager of ZKM

B. City Government

For the city government and the federal state government, ZKM is an interesting model that shows citizens how technology has evolved during the period of the 1980s to 1990s. In this center, the developmental process of personal computers and other new media devices are displayed right before the audience’s eyes, with the epochal progress of information technology being explicitly demonstrated. ZKM also hopes to stimulate children’s imagination about the future through an introduction to these new devices. A display of technological devices is not so noteworthy if the issue of social sustainable development is not taken into account. Discussions involving these issues can guide people to think over the possibility and stance of mankind. Art plays a role of interpretation and illustration in this city.

² The Karlsruhe Institute of Technology (KIT) is one of the largest and most prestigious research and education institutions in Germany and is also a result of merger between the university (*Universität Karlsruhe (TH)*) and the research center (*Forschungszentrum Karlsruhe*) of the city of Karlsruhe.

C. Communities

Several years before ZKM opened, Multimediale had already established a cooperative relationship with an international media art festival for a period of time. From 1989 to 1997, they worked together to introduce the interactive condition of art and new media technology every two years. Multimediale was held in different venues with different themes each time, and its events included seminars, lectures, musicals, art performances, exhibitions of artworks from ZKM Institute, and new collections from local museums. Cooperative relationships among ZKM, other local cultural institutions, and international institutions present all kinds of possibilities for cross-field cooperation. In the meantime, the “Siemens—Media Art Award” is another highlight for Multimediale. Awardees win a prize of €100,000. It is widely held that ZKM has worked rather perfectly in this relatively small city, where stable economy and enthusiastic pursuits of knowledge co-exist, providing people with a perfect place to exchange ideas and create art.

“...I think the geographic location of the ZKM was a disadvantage, as it was not founded in Berlin, Munich or other big cities. Yet even if the location was really superb, the enthusiasm for intellectual development, discussion or negotiation was missing from the picture, ZKM could never achieve this accomplishment of today for another decade....Karlsruhe is a very small city, located at a remote area, which at first could not attract customers or higher-ups of a firm, especially when they were not very much interested in cultural affairs. Yet ZKM and local universities have developed a close relationship and worked together to bring interesting results. In the past five years, scientific technology has soared incredibly, which provided all sorts of leads for the ZKM. On the other hand, they have held respect for the opinions from the ZKM in spotting the public’s preferences and the trend....”

Christiane Riedel, General Manager of ZKM

During the earliest period of digital computer development, people had very little training and knowledge about computer technology. Yet they maintained an open attitude toward art and culture, and thus created a prominent atmosphere for the pursuit of knowledge, an aspect that makes Karlsruhe stand out amongst other cities.

3. Effect Momentum

An institution integrates resources to produce effects. This is the ultimate objective for any institution. If resource allocation cannot be effectively and rationally made, continual momentum cannot be sustained, and the effect of resources will weaken due to a loss of resources and talents.

3.1 Direct Economic Impact

To understand the operating performance of the case institution, we employed the ordinal least squares (OLS) method, looking at the following five dependent variables: City GDP, Total Number of Employed Population (Employed), Annual Revenue of Local government (Revenue), the Annual Tourism Output (Tourist), and the Annual Ticket Proceeds from City Museums (Visitor). As to the independent variable, this

study chooses the “Operating Performance (OP)” of the ZKM (with respect to ticket proceeds) to evaluate ZKM’s economic impact to the city.

3.1.1 The Effectiveness of ZKM’s Operating Performance Affects the City’s GDP

With all other conditions being equal, as the operating performance of ZKM (measured by ticket proceeds) increases by 1%, the city’s GDP increases by 0.125% (see Figure 1 and Table 2).

Table 2 Regression Analysis of City GDP and ZKM’s Operating Performance: Karlsruhe

Variable	Coefficient	Signif (P)
CONSTANT	14.640	0.000***
ZKM	0.125	0.005***
R**2	0.181	

Source: SISKA - Statistisches Informationssystem Karlsruhe, integrated by TAERC, 2013

Note: Calculations are based on statistics from 1997-2010.

Significant: ***, **, * represent significant level of 1% , 5% and 10% respectively

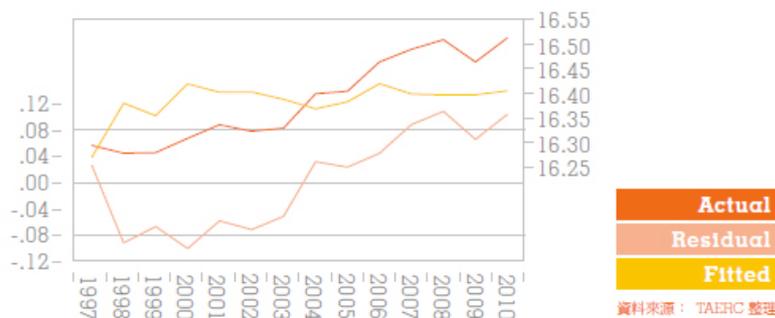


Figure 1 Chart Representing the Relationship between ZKM’s Operating Performance and City GDP from 1997 to 2010: Karlsruhe

3.1.2 How ZKM's Operating Performance Affects the Total Number of Employed Population

With all other conditions being equal, as the operating performance of ZKM (measured by ticket proceeds) increases by 1%, the total number of employed population increase by 0.054% (see Figure 2 and Table 3).

Table 3 Regression Analysis of Total Number of Employed Population and ZKM's Operating Performance: Karlsruhe

Variable	Coefficient	Signif (P)
CONSTANT	4.522	0.000***
ZKM	0.054	0.000***
R**2	0.353	

Source: SISKKA - Statistisches Informationssystem Karlsruhe, integrated by TAERC, 2013

Note: Calculations are based on statistics from 1997-2010.

Significant: ***, **, * represent significant level of 1% , 5% and 10% respectively



Figure 2 Chart Representing the Relationship between ZKM's Operating Performance and Total Number of Employed Population from 1997 to 2010: Karlsruhe

3.1.3 How ZKM's Operating Performance Affects the Local Government's Annual Revenue (Including Tax Revenue)

Holding all other variables constant, as ZKM's operating performance (measured by ticket proceeds) increases by 1%, the local government's annual revenue (including tax revenue) increases by 0.121% (see Figure 3 and Table 4).

Table 4 Regression Analysis of the Local Government Annual Revenue and ZKM's Operating Performance (Including Tax Revenue): Karlsruhe

Variable	Coefficient	Signif (P)
CONSTANT	18.740	0.000***
ZKM	0.121	0.045**
R**2	0.085	

Source: SISKA - Statistisches Informationssystem Karlsruhe, integrated by TAERC, 2013

Note: Calculations are based on statistics from 1997-2010.

Significant: ***, **, * represent significant level of 1% , 5% and 10% respectively



Figure 3 Chart Representing the Relationship between ZKM's Operating Performance and the Local Government's Annual Revenue (Including Tax Revenue) from 1997 to 2010: Karlsruhe

3.1.4 How ZKM's Operating Performance Affects the Annual Ticket Proceeds from City Museums

Holding all other variables constant, as the operating performance of ZKM (measured by ticket proceeds) increases by 1%, the annual ticket proceeds from city museums increase by 0.389% (see Figure 4 and Table 5).

Table 5 Regression Analysis of Annual Ticket Proceeds from City Museums and ZKM's Operating Performance: Karlsruhe

Variable	Coefficient	Signif (P)
CONSTANT	10.032	0.000***
ZKM	0.389	0.000***
R**2	0.787	

Source: SISKA - Statistisches Informationssystem Karlsruhe, integrated by TAERC, 2013

Note: Calculations are based on statistics from 1997-2010.

Significant: ***, **, * represent significant level of 1% , 5% and 10% respectively

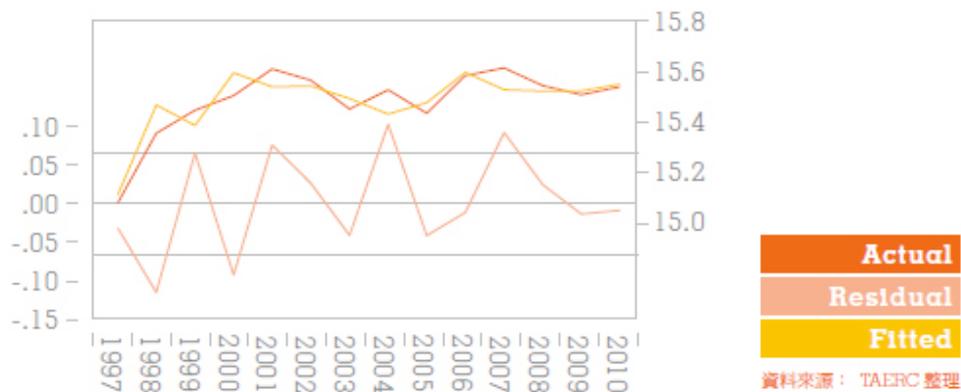


Figure 4 Chart Representing the Relationship between ZKM's Operating Performance and Annual Ticket Proceeds from City Museums from 1997 to 2010: Karlsruhe

3.1.5 How ZKM's Operating Performance Affects Annual Tourism Output

The results from the linear regression analysis in the table below show that, after controlling for all other variables, the annual tourism output increases by 0.389% as the operating performance of ZKM (measured by ticket proceeds) increases by 1% (see Figure 5 and Table 6).

Table 6 Regression Analysis of Annual Tourism Output and ZKM's Operating Performance: Karlsruhe

Variable	Coefficient	Signif (P)
CONSTANT	8.240	0.000***
ZKM	0.389	0.000***
R²	0.787	

Source: SSKA - Statistisches Informationssystem Karlsruhe, integrated by TAERC, 2013

Note: Calculations are based on statistics from 1997-2010.

Significant: ***, **, * represent significant level of 1% , 5% and 10% respectively

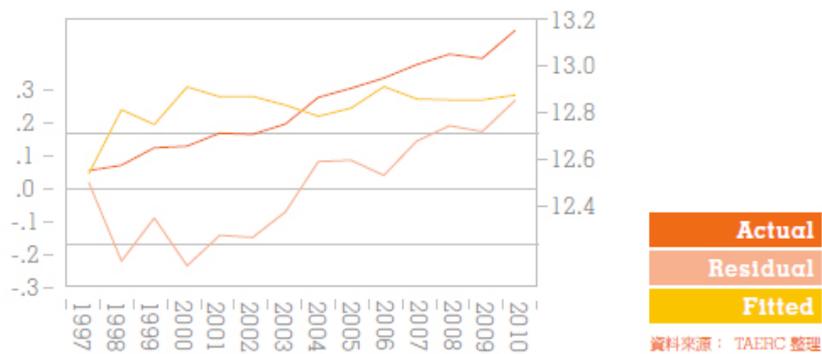


Figure 5 Chart Representing the Relationship between ZKM's Operating Performance and the Annual Tourism Output from 1997 to 2010: Karlsruhe

3.2 Indirect Economic Impact: Travel, Tourism and Hospitality Industries Boom

To conduct the linear regression analysis, first the ordinal least squares (OLS) method was used and second “City GDP,” “Annual Tourism Output”, and “Annual Ticket Proceeds from City Museums” were selected as the three variables (see Figure 6 and Table 7).

Table 7 Regression Analysis of City GDP and Annual Ticket Proceeds from City Museums: Karlsruhe

Variable	Coefficient	Signif (P)
CONSTANT	12.509	0.000***
VISITOR	0.251	0.000***
R**2	0.378	

Source: SISKA - Statistisches Informationssystem Karlsruhe, integrated by TAERC, 2013

Note: Calculations are based on statistics from 1995-2010.

Significant: ***, **, * represent significant level of 1% , 5% and 10% respectively

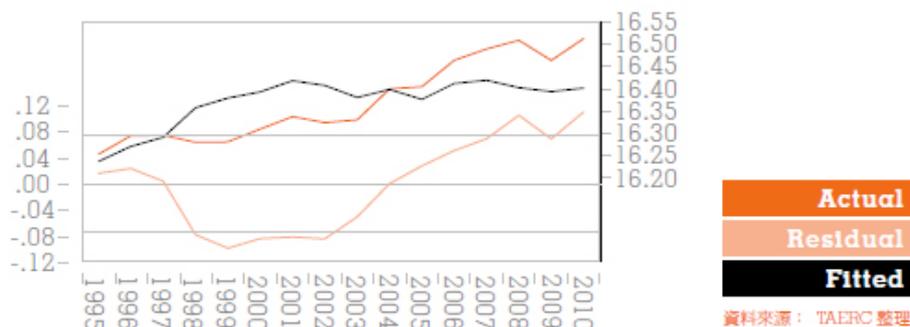


Figure 6 Chart Representing the Relationship between Annual Ticket Proceeds from City Museums and City GDP from 1995 to 2010: Karlsruhe

The results from the linear regression analysis indicate the existence of a remarkable positive correlation between “City GDP” and “Annual Ticket Proceeds from City Museums”. With all other conditions being equal, as annual ticket proceeds from city museums increase by 1%, the city’s GDP increases by 0.251%.

With all other conditions being equal, “City Annual Tourism Output” and “City GDP” also have a highly positive correlation. As the city’s annual tourism output increases by 1%, the city’s GDP increases by 0.251% (see Figure 7 and Table 8).

Table 8 Regression Analysis of City GDP and City Annual Tourism: Karlsruhe

Variable	Coefficient	Signif (P)
CONSTANT	12.959	0.000***
TOURIST	0.251	0.000***
R**2	0.378	

Source: SISKKA - Statistisches Informationssystem Karlsruhe, integrated by TAERC, 2013

Note: Calculations are based on statistics from 1995-2010.

Significant: ***, **, * represent significant level of 1% , 5% and 10% respectively



Figure 7 Chart Representing the Relationship between City Annual Tourism Output and City GDP from 1995 to 2010: Karlsruhe

The results suggest that flagship art institutions bring forth multiple economic effects and create added values, triggering the city’s economic development as a consequence.

Case Study 2. dOCUMENTA

Using dOCUMENTA as the case subject, an analysis of the structure of art economy was conducted from the perspective of three dimensions—namely, “endowment of resources,” “resource integration,” and “effect momentum”.

1. Endowment of Resources

Since 1955, dOCUMENTA has been held every five years as one of the most prominent exhibitions around the world. After World War II, Kassel, a town at the border of western Germany, was seriously ruined and destroyed. In the past, the local government conducted Bundesgartenschau in hope of attracting attention as well as construction funds for this town. The 1st dOCUMENTA was included in the Bundesgartenschau as a standing sculpture exhibition, which was held in Museum Fridericianum in the form of literature review. In the 1st dOCUMENTA, more than 130,000 people visited the exhibition, in which a great number of Modernism experts were introduced to the audience. Professor Arnold Bode, who was born and taught in Kassel, was the founder of the dOCUMENTA. After the huge success, Arnold Bode and Werner Haftmann planned the second dOCUMENTA with a theme of “Art After 1945,” in which a complete literature review of Germany’s art history was presented in an attempt to revive Germany’s recollection of contemporary art and to introduce Germany’s post-war art into the international arena. The 3rd dOCUMENTA was themed “Museum of 100 Days,” where the focus was, for the first time, transferred from literature review to current art creations. Ever since the 5th dOCUMENTA in 1972, the art director began to take the lead in planning the exhibition, and the dOCUMENTA has become an arena where artists present their retrospects or reflections of the age, society or political situation. Not only are various types of art materials included in such exhibitions, but art creations outside of western tradition have also emerged. With the boom of contemporary art in the 21st century, biennials and fairs are conducted across the globe. dOCUMENTA maintains its slow pace with new records being brushed over and over again. As Roger M. Buegel, the 12th art director of dOCUMENTA, said, “dOCUMENTA is different from all the shallow information that bombards us every day.” Today, Kassel has transformed from the industrial town of the 19th century to the Mecca of art, a must-visit destination for every art-lover around the world. The 13th dOCUMENTA showcased over 100 artworks and attracted some 860,000 visitors within 100 days. This city has a population of less than 250,000 people, equivalent to that of Taitung County, Taiwan (see Table 9).

Table 9. Statistics of dOCUMENTA from 1955 to 2012

Years (session)	Thmem	Attendance	Numbers of Participated Artist	Numbersof Art Work Displayed
1955(1)	Art of the Twentieth Century	130,000	148	670
1959(2)	Art after 1945	134,000	326	1,770
1964(3)	Museum of 100 Days	200,000	298	1,414
1968(4)	International Art Exhibition*	207,000	150	1,000
1972(5)	The Questioning of Reality - Image Worlds Today	220,000	222	1,100
1977(6)	The Position of Art in the Society of media*	355,000	492	1,400
1982(7)	(none)	387,000	167	1,000
1987(8)	Historical and Social Dimension of Art	487,000	240	520
1992(9)	From Limbs to Body, and to Community*	616,000	196	1,000
1997(10)	Critical Confrontatin with the Present	629,000	138	569
2002(11)	Postcolonialism and Globalisation	651,000	118	450
2007(12)	The Migration of Forms*	751,000	113	516
2012(13)	Collapse and Recovery	860,000	193	n/a

Source: dOCUMENTA Archive

2 Resource Integration

2.1 Structural Capital

According to accessible information released by Museum Fridericianum, the dOCUMENTA is presently planned and coordinated by dOCUMENTA and Museum Fridericianum Veranstaltungen GmbH (hereinafter referred to as DMFV), a firm that receives funds equally from Land Hessen and Stadt Kassel. For the present, Bernd Leifeld, a renowned playwright, acts as the firm's Geschäftsführer (CEO). A commission comprised of twelve members from the government supervises all businesses and makes decisions. Such members include the mayor of Kassel, city councilors, the Culture Minister of Land Hessen, and experts from Kulturstiftung des Bundes. Aside from taking responsibility for the curation of the dOCUMENTA, DMFV runs Museum Fridericianum and takes charge of exhibitions held outside of dOCUMENTA as well. Since 1972, a review team consisting of nine art critics from various countries holds a discussion forum exactly a year after each dOCUMENTA to plan multiple international exhibitions and elect the art director for the next dOCUMENTA. This art director will propose a list of recommended artists based on their ideas or concerns; then, the aforementioned commission will vote and decide which artists will have the privilege to partake in the upcoming dOCUMENTA.

2.2 Financial Capital

The funding for dOCUMENTA mainly comes in the form of subsidies from the government, enterprises and other sources. Take the 13th dOCUMENTA for instance. Roughly 50% of its funds came from Land Hessen,

Kassel's city government, and Kulturstiftung des Bundes. Apart from such subsidies, the Kassel dOCUMENTA also received donations from International Friends of dOCUMENTA, art foundations, art and cultural organizations and museums as well as sponsorships from a wide range of companies such as liquors, instruments, green buildings, recycling and environmental technology firms.

2.3 Human Capital

A large-scale exhibition requires a well-organized structure, including departments of administration, marketing and public relations, curation, instruments, and so forth. dOCUMENTA is equipped with a "library team" responsible for collecting albums of paintings, art materials, and art publications, which not only serves as an indispensable resource to the curation team but also contributes to recording the history of dOCUMENTA.

2.4 Relationship Capital

Sponsoring companies include state-run firms such as Deutsche Bahn AG, Deutsche Post AG, Sparkassen-Finanzgruppe, and private companies such as Volkswagen, SMA Solar Technology AG and Ströer DSM (see Table 10).

Table 10 Partners of dOCUMENTA (13) in 2012

Position	Category	Content of Business	Name of the Unit (German)
Subsidy	Public	City Government	Stadt Kassel
Subsidy	Public	State Government	Landesportal Hessen
Subsidy	Public	Foundation of the Central Government	Kulturstiftung des Bundes
Major Sponsor	Public	Transportation	DB – Mobility Networks Logistics
Major Sponsor	Public	Finance	Sparkassen – Finanzgruppe
Major Sponsor	Private	Automobile	Volkswagen
Sponsor	Public	Postal Service	Deutsche Post AG
Sponsor	Private	Energy (Solar Energy)	SMA Solar Technology AG
Sponsor	Private	Outdoor Media	Ströer DSM
Corporate Benefactors	Private	Vintner	Absolut Art Bureau
Corporate Benefactors	Private	Medical Device	B. Braun
Corporate Benefactors	Private	Recycle	Duales System Holding GmbH & Co. KG (DSD)
Corporate Benefactors	Private	Green Building Consultant	Green Building Group
Corporate Benefactors	Private	Fertilizer	K+S Aktiengesellschaft

Source : dOCUMENTA

3 Effect Momentum

An institution integrates resources to achieve results. This is the ultimate objective for any institution. If resource allocation cannot be effectively and rationally made, continual momentum will not take place, and the impact of resources will weaken due to a loss of resources and talents.

3.1 Direct Economic Benefits – Cost Effectiveness Analysis

To understand how Kassel dOCUMENTA exerts influence over the urban art economy, we employed an analysis on cost-effectiveness to evaluate the cost effect of the Documenta's operating cost and subsidies received from the government. Meanwhile, we also evaluated the profit rates of direct and indirect turnover. By so doing, we analyze the direct and indirect operating performance of the case organization.

3.1.1 Operating Cost

This study makes a statistics for the budget of the dOCUMENTA from 1995 through 2007 by allocating the fixed cost (60%) and variable cost (30%). The planned expenditure of the dOCUMENTA increased from 379,000 Duetsche Mark (roughly US\$87,400) to €27 million (roughly US\$33 million).

3.1.2 Direct Proceeds

A. Operating Turnover (Ticket Proceeds)

Ticket proceeds are part of the operating turnover. We calculated the ticket proceeds from the number of visitors between 1955 and 2007. In 1955, the ticket proceeds were about 130,000 Duetsche Mark (roughly US\$31,200). In 2007, the ticket proceeds increased to €13.5 million (roughly US\$18.5 million).

B. Operating Cost Effectiveness

Employing the formula for cost effectiveness, we found that the operating cost of dOCUMENTA had a negative value since 1955. Starting from 1977, positive values began to emerge, with peaks at 1992 (0.58) and 1997 (0.57). Thereafter, the curve began to fall (see Figure 8).

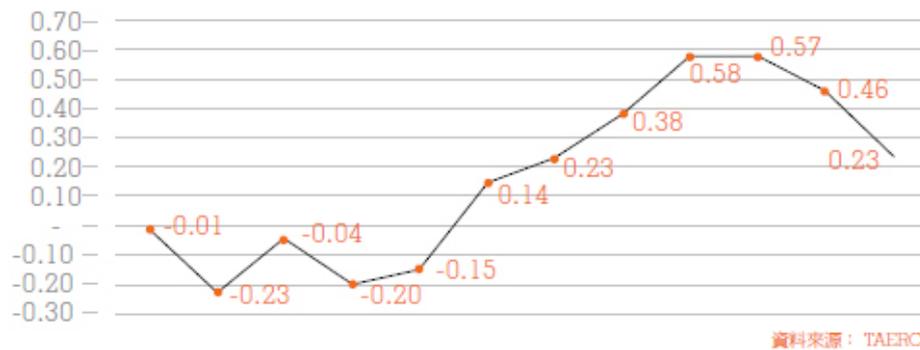


Figure 8 Chart Representing dOCUMENTA's Operating Cost Effectiveness from 1995 to 2007: Direct Effects

C. The Cost Effectiveness of Subsidies from the Government

As statistics have shown that the ratio of subsidization from public sectors is on average 50%, it is clear that cost effectiveness of government subsidies has improved over the decades. The minimum value of 0.42 soared to 2.07 in 1992, which dropped and hovered at a level of at least 1.05 for the last three exhibitions (see Figure 9).

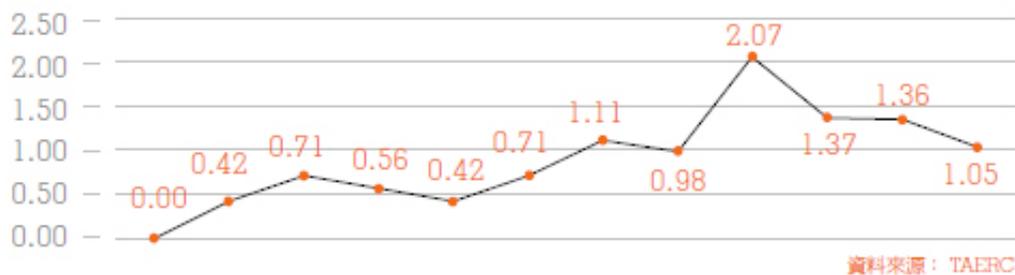


Figure 9 Chart Representing dOCUMENTA's Subsidy Cost Effectiveness from 1995 to 2007: Direct Effects

3.1.3 Indirect Proceeds – Tourism Revenue

As the popularity of dOCUMENTA increases, it draw more and more tourists to the city. Most of the statistics indicate that from 1950 to 2012, the number of tourists during the year in which dOCUMENTA was held far outnumbered that of the previous and subsequent years. This suggests that dOCUMENTA does produce a positive effect for the city's tourism (see Table 11).

Table 11 The Number of Tourists Visiting Kassel Versus The Number of dOCUMENTA Attendees

Year	Tourism of Kassel	City Tourism compare with the same period	Attendance of dOCUMENTA
1950	97,899	-	-
1951	89,296	(8,603)	-
1952	110,648	21,352	-
1953	145,566	34,918	-
1954	163,780	18,214	-
1955	222,687	58,907	130,000
1956	170,128	(52,559)	-
1957	193,176	23,048	-
1958	247,995	54,819	-
1959	256,585	8,590	134,000
1960	243,159	(13,426)	-
1961	241,280	(1,879)	-
1962	226,287	(14,993)	-
1963	230,041	3,754	-
1964	255,595	25,554	200,000

1965	240,785	(14,810)	-
1966	243,724	29,39	-
1967	224,503	(19,221)	-
1968	242,166	17,663	207,000
1969	219,719	(22,447)	-
1970	233,423	13,704	-
1971	227,075	(6,348)	-
1972	258,462	31,387	220,000
1973	235,773	(22,689)	-
1974	215,668	(20,105)	-
1975	223,675	8,007	-
1976	218,106	(5,569)	-
1977	260,029	41,923	355,000
1978	221,110	(38,919)	-
1979	228,741	7,631	-
1980	230,827	2,086	-
1981	247,446	16,619	-
1982	226,833	(20,6013)	387,000
1983	195,981	(30,852)	-
1984	203,306	7,325	-
1985	213,970	10,664	-
1986	215,790	1,820	-
1987	249,286	33,496	487,000
1988	218,797	(30,489)	-
1989	220,504	1,707	-
1990	244,206	23,702	-
1991	264,799	20,593	-
1992	297,848	33,049	616,000
1993	244,025	(53,823)	-
1994	248,198	4,173	-
1995	260,134	11,936	-
1996	276,376	16,242	-
1997	356,129	79,753	629,000
1998	304,266	(51,863)	-
1999	338,776	34,510	-
2000	362,227	23,451	-
2001	353,478	(8,749)	-
2002	403,250	49,772	654,000
2003	347,733	(55,517)	-
2004	361,727	13,994	-
2005	364,425	2,698	-

2006	382,602	18,177	-
2007	453,031	70,429	751,000
2008	412,126	(40,905)	-
2009	401,622	(10,504)	-
2010	405,201	3,579	-
2011	435,895	30,694	-
2012	500,395	64,500	860,000

Source: integrated by TAERC

A. Operating Cost Effectiveness

Using the formula for cost effectiveness, we found that the operating cost of dOCUMENTA's indirect proceeds had shown fluctuations from 1955 to 1972. Starting from 1977, positive values began to emerge at 2.59 and peaked at 1992 (4.29). Thereafter, the curve began to fall (see Figure 10 and Table 11).



Figure 10 Chart Representing dOCUMENTA's Subsidy Cost Effectiveness from 1955 to 2007: Indirect Effects

B. The Cost Effectiveness of Subsidies from the Government

As statistics have shown that the ratio of the subsidization from public sectors is on average 50%, we get the cost effectiveness of subsidies on tourism revenue at 5.07. In 1992, the value soared to 12.21 and subsequently declined to a range between 5 and 7 for the last three exhibitions (see Figure 11 and Table 11).



Figure 11 Chart Representing dOCUMENTA's Subsidy Cost Effectiveness from 1955 to 2007: Indirect Effects

3.2 Indirect Economic Benefits: Travel, Tourism and Hospitality Industries Boom

We employed the ordinal least squares (OLS) method and selected three variables from added-value industry activities—namely, “City GDP,” “Annual Tourism Output,” and “Annual Ticket Proceeds from City Museums”—to conduct the regression analysis. Results from the linear regression analysis indicate that “Annual Ticket Proceeds from City Museums” is positively-correlated to “City GDP.” With all other conditions being equal, as annual ticket proceeds from city museums increases by 1%, the city’s GDP increases by 0.125% (see Figure 12 and Table 12).

Table12 Regression Analysis of City GDP on Annual Ticket Proceeds from City Museums: Kassel

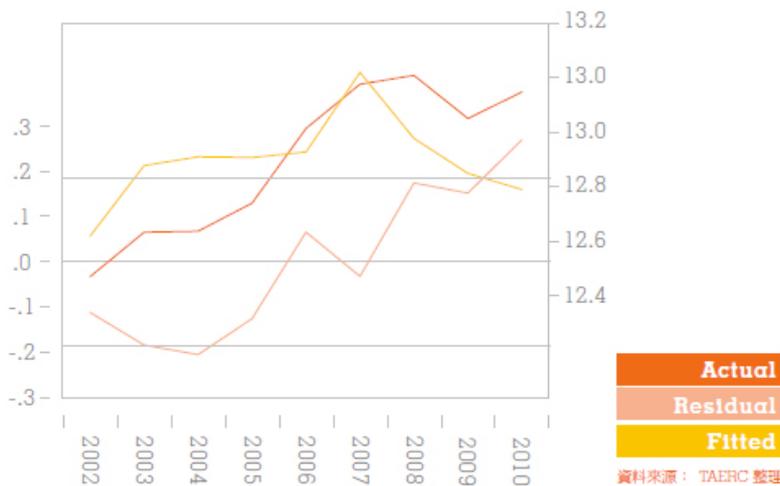
Variable	Coefficient	Signif (P)
CONSTANT	13.578	0.000***
VISITOR	0.158	0.001***
R**2	0.328	

Source: integrated by TAERC

Note: Calculations are based on statistics from 2002-2010.

Significant: ***, **, * represent significant level of 1% , 5% and 10% respectively

Figure 12 Chart Representing the Relationship between Annual Ticket Proceeds from City Museums and City GDP from 2002 to 2010: Kassel



With all other conditions being equal, “Annual Tourism Output” is highly positively-correlated with “City GDP”. As each independent variable increases by 1%, the city’s GDP increases by 0.473% (see Figure 13; Table 13).

Table 13 Regression Analysis of City GDP on Annual Tourism Output: Kassel

Variable	Coefficient	Signif (P)
CONSTANT	8.935	0.000***
TOURIST	0.473	0.000***
R**2	0.674	

Source: integrated by TAERC

Note: Calculations are based on statistics from 1995-2010.

Significant: ***, **, * represent significant level of 1% , 5% and 10% respectively

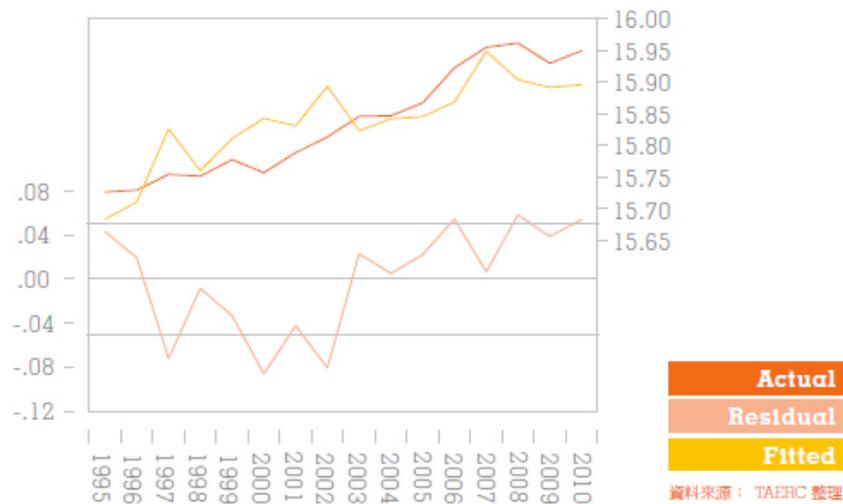


Figure 13 Chart Representing the Relationship between Annual Tourism Output and City GDP from 1995 to 2010: Kassel

The results indicate that flagship art exhibitions bring forth multiple economic effects and create added values, triggering urban economic development.

Policy implications and future research

The purpose of this research, to examine the relationship between art-base initiatives and urban economic development, is a broad task with many possible approaches. Various chapters illustrate the challenges of conducting empirical analysis on this topic: what type of art-based initiatives activity should be studied, what kinds of organizations conduct the activity, what are the right measures of economic impact, and at what level of geography. These seemingly technical questions are relevant for policymakers as well as academic researcher: while creativity starts to play a vital role in social and economic developments, it is critical to understand what factors actually begin to improve a city's creative capital and quality of life. There are questions that need to be addressed. For example, what kind of cultural item is worthy of investment? After putting in funds and human capital, does such investment help a city to locate its positioning and discover its sense of identity and belonging? And can the city achieve sustainable development under the dynamic circumstances of globalization? This study conducts analyses for a renowned art institution and a famous art exhibition, scrutinizing the following areas—how they became the driving force of urban dynamics; what kind of influences they brought to the city's culture, commerce and industry; how community residents partook in the promotion of such flagship cultural institutes; and how urban art economy was motivated in the post-industrial period—by exploring the factors that affect the urban art economy. I chose ZKM and dOCUMENTA as case studies to discuss the multiple, complex economic development from the macro-level (environment) to the micro-level (institutional operating performance).

These results offer somewhat positive outcome of how flagship art-based initiatives, in terms of a significant art institution or biennale, support the urban art economy. To conduct cross-analysis on the macro-economy and operating performance of the case study institution, this study employed ordinal least squares (OLS) method to carry out regression analysis of the following five dependent variables: "City GDP," "Total Number of Employed Population," "Local Government Annual Revenue (including Tax Revenue)," "Annual Tourism Output," "Annual Ticket Proceeds from City Museums." The results indicate that art institutions have made a positive contribution to each of the above five conditions. Moreover, this study further conducts regression analysis for how "Annual Tourism Output" and "Annual Ticket Proceeds from City Museums" contribute to the city's GDP. The results indicate that both have a positive correlation with the city's GDP and have remarkably increased its value, suggesting that flagship institutions bring about a positive influence on both the city's annual tourism output and the annual proceeds from city museums, thereby exerting an indirect economic effect on the city's GDP, which, in turn, brings multiple benefits for the urban art economy and creates added values in other industries.

The impact of art-based initiatives in urban economic development has so far mostly been studied by qualitative researchers, complementing these studies with larger scale statistical analysis would help aggregate the narratives of art economy within the larger urban context.

References

- Bundesministerium für Wirtschaft und Technologie (2009). *Gesamtwirtschaftliche Perspektiven der Kultur- und Kreativwirtschaft in Deutschland*. Berlin: Bundesministerium für Wirtschaft und Technologie.
- Flew, T. (2009). *The cultural economy moment*. Cultural Science Vol 2 no. 1.
- Florida, R. (2002). *The Rise of the Creative Class: And How it's transforming work, leisure, community and everyday life*. New York: Perseus Book Group.
- Garnham, N. (1990) *Concepts of Culture: Public Policy and the Cultural Industries*. In N. Garnham, Capitalism and Communications, London: Sage.
- Garnham, N. (2005) *From Cultural to Creative Industries: An Analysis of the Implications of the "Creative Industries" Approach to the Arts and Media Policy Making in the United Kingdom*, International Journal of Cultural Policy 11(1).
- Hesmondhalgh, D. (2007) *The Cultural Industries*, London: Sage.
- Investitionsbank Berlin (2012). *Berlin aktuell – Die Bedeutung von Museen und Kunstgalerien als Image- und Wirtschaftsfaktor*. Berlin: Investitionsbank Berlin.
- International Federation of Arts Councils and Culture Agencies (2005). *D'Art report 18: Statistical Indicators for Arts Policy*, IFACCA
- Potts, P., Cunningham, S., Hartley, J., Ormerod, P., Et al. (2008) *Social Net Work Markets: A New Definition of the Creative Industries*, Journal of Cultural Economics 32(2), pp.167-185.
- Kelly, A and Kelly M (2000). *Impact and Values: Assessing the Arts and Creative Industries in the South West*, Bristol Cultural Development Partnership, Bristol
- Moon, M. Jae. (2001). *Cultural Governance: A Comparative Study of Three Cultural Districts*. Administration & Society September 2001 vol. 33 no. 4 , pp.432-454
- Pratt, A. (2009) *The Creative and Cultural Economy and the recession*, Geoforum 40, pp.495-496.
- Radich, Anthony, J (1987). *Economic Impact of the Arts: A Sourcebook*, National Conference of State Legislature, Denver, USA.
- Reeves, M.(2002). *Measuring the economic and social impact of the arts*, Arts Council of England.
- Schiama, G. (2011). *The Value of Arts for Business*, Cambridge.

Senate Department for Economics, Technology and Women's Issues Division Communication, Media, Creative Industries(2010). *Creative Metropolies Berlin: Situation analysis of 11 cities*, pp.68-78

The European Task Force on Culture and Development (1997). *In from the Margins, A contribution to the debate on Culture and Development in Europe, Summary Version of a report prepared for the Council of Europe*, Brussels

The Governing Mayor of Berlin, Senate Chancellery – Cultural Affairs (2011). *Federal State of Berlin 2011 Cultural Funding Report*, p28.

Throsby, D. (2001) *Economics and Culture*, Cambridge: Cambridge University Press.

Throsby, D. (2008) *Modeling the Cultural Industries*, International Journal of Cultural Policy 14(3), pp.217-232.

UNESCO and The Global Alliance (2006). *Understanding Creative Industries - Cultural statistics for public policy-making*.