

Graduate School of Creative Science and Engineering  
Waseda University

# 博士論文概要

## Doctoral Thesis Synopsis

### 論文題目

Thesis Theme

#### **MULTI-DIMENSIONAL MONITORING AND INTERPRETATION OF GLOBAL ENVIRONMENT'S IMAGES**

A case study on the perceived and projected images through  
residents and public media patterns in Odaiba, Tokyo Bay

グローバル都市イメージの多面的解釈手法の開発  
東京湾お台場地区における住民による認知イメージと  
公共メディアによって投影されたイメージの比較を通して

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In this contemporary world, the dynamic Globalization is affecting the state of “Placeness” resulting in the current scene of clone and homogenous spaces around the world, besides reducing the unique place experience and the occurrence of “Placelessness”. Thus, this research is keen on examining the image of a global, clone, and a touristic environment that serves simultaneously as a living context. These types of environments are also highly considered from the perspective of public media to highlight and sustain their existence, role, and global competition through place branding strategies.

Since the influence of the advanced information platforms is increasing, the urban design and planning interventions are targeting the “Informational space”, and “Physical space”. From here, this research examines the ways of looking to a certain global environment including several clone elements and the images produced from them by initially hypothesizing that these environments are having different images. Therefore, this research is mainly targeting three main aspects, the “Physical space” with its clone elements while understanding their imageability, the “Perceptual space” through examining the Residents Perceived Images (RPIs) based on full involvement with the place, and the “Informational space” through the public Media Projected Images (MPIs). Accordingly, trying to grasp the similarities and conflicts between the RPIs and MPIs. While at last, showing how to properly grasp and utilize the image of the urban environment for urban design enhancement.

This research focuses on the main case study “The Waterfront Subcenter” which is the most recent Subcenter established and the most related project to the "World city project" concept. “Odaiba” (Daiba and Aomi areas) was chosen specifically as a part of this project is a global artificial built environment and a vital touristic spot and considered to be a unique case in terms of its demographic features. At our knowledge, this is one of the first detailed analyses on the images of Odaiba whether these images are perceived by its residents or projected by the public media while jointly comparing the residents’ perceptions and media’s images.

This research suggests that although global environments might have a specific superficial overall image due to prototype designs that have led to extreme homogeneity, they instead may tend to have multiple and deep images depending on the way and perspective who is dealing with them. This study also suggests that these types of environments tend to create a perception gap between local and non-local residents, as well as projecting diverse images reflected from the media mainly depending on the place promotion of the main global structuring elements especially the clone ones. This research suggests a two-way image process arguing that it could help in understanding the multiple images of a certain place. This process consists of different perspectives that are whether the “Personal scale” (residents) perceiving the actual perceived image or the “Public scale” by the city public media and stakeholders through advertising and place branding.

The first two chapters of the thesis are mainly a preliminary approach to the main body. *Chapter zero* presents the background of the research, research hypotheses, aims, and main framework. While *Chapter One* emphasizes the research positioning in relation to previous studies. It also provides the urban and societal relevance of the research, in addition to the research’s design, approach, and flow. *Chapter two* provides a historical review of Odaiba as an artificial urban environment. It also provides the motives of the case study’s selection and the demographic features of Odaiba.

*Chapter three* is the beginning of the substantial body of the study and addressed the “Personal Image” and the “Perceptual Space”, it aims to psychologically evaluate residents’ perception in Odaiba through a questionnaire in English and Japanese among the Foreigner and Japanese residents by targeting all residential complexes in Odaiba from 6<sup>th</sup>-10<sup>th</sup> of August 2018. The valid answers were 206 out of 860. Afterward, conducting a Semantic Differential Analysis with 25 Bi-polar adjectives through a five-point differential scale as personal descriptors for Japanese and Foreigner residents of Odaiba. The results showed significant statistical differences between both residents’ nationalities which confirmed the perceptual gap between them. Foreigners tend to judge Odaiba according to its location, accessibility, built environment style, performance, diversity, and the space mixed uses. While the Japanese tend to care more about the situation and style of Odaiba, they care about the relationship with the waterfront, built environment style scale, walkability, sense of publicness, noise, livability,

and cost of living. The accessibility and connectivity with the city center were found affecting the residents. Although Odaiba tended to have a diverse cultural context, as several local and international events are held during the year, these events overwhelm the regular activities practiced by the residents. Therefore, the livability aspect needs to be reconsidered especially when some large-scale events tend to privatize the public spaces of Odaiba. This act has an impact on the daily involvement of residents with the physical environment and their sense of satisfaction. One of the other negative images perceived from Odaiba is being an expensive place for living. Five image dimensions including a mixture of tangible and intangible aspects were extracted and interpreted through Principal Component Analysis (PCA) by SPSS as: “Place location, Milieu, Human activities, Built environment, and Context”. The variables and the later extracted dimensions were mainly psychological ones based on the residents’ perception of the physical attributes of Odaiba.

*Chapter four* is also concerned about the “Perceptual space” by depending on the psychological analysis from the perspective of diverse users living in Odaiba. After conducting a Hierarchical Cluster Analysis (HCA) using Ward’s method based on the earlier (PCA) results, six RPI patterns were generated as follows: “Unique, Reachable, and Walkable”, “Assorted and Global”, “Homogenous and Accessible”, “Peaceful and Calm”, “Disturbing and Inconvenient”, and at last, “Festive and Crowded”. Results interestingly showed that residents tend to generate different and conflicting images through their “Cognitional filter” of the same environment based on their demographic features and preferences. The second part of the survey included the top 3 influential elements. 183 respondents answered (531 valid words). The top elements in the six patterns were: Rainbow Bridge, Beach, Gundam, Shopping malls, couples, tourists, and Festivals/Events, in which their appearance rate differs in each cluster. Finally, concerning Odaiba’s performance as a global environment, since it was planned to accommodate a residential population, it is important to pay attention to balance its amenity environment.

*Chapter five* examined the image from the “Public scale” perspective to grasp the “Informational space” images by understanding Odaiba’s public Media Projected Images (MPIs) tendencies through selecting diverse printed and virtual media sources (Guidebooks, Pamphlets and maps, Websites, and Online Guides) through 2018-Jan.2019. Interesting findings were grasped after analyzing the content of text data of 22 objects of study through Text Mining by KH CODER 3. The top 5 elements projected among all sources are Scenery, Beach, Rainbow Bridge, Tokyo Bay, and Odaiba Marine Park. This indicated that the overall MPIs are overwhelmed by sightseeing elements through intensely promoting all elements related to Tokyo Bay and Marine elements. Cross-Tabulation Analysis showed that Guidebooks tend to give a general idea about Odaiba. The Pamphlets and maps tend to focus on the role of the parks and nature especially the historic ones. The Websites focused on various aspects related to Waterfront City’s potentials. Finally, the Online Guides focused on the scenery aspects, while being a relaxation destination, while neglecting all elements related to work and research environment. The relations of the appearance patterns of elements and the four media sources through Correspondence Analysis (CA) by SPSS are mostly explained with a cumulative percent of 83.93% through Dimension 1 as “Occasional/Permanent Facilities” and Dimension 2 as “Daily uses/Sightseeing focus”. Four MPIs components were obtained by CA: “Shop/Experience/Commute”, “Visit/Stay/Work”, “Enjoy/see/Interact”, “Discover/Relax/Wander”. MPIs are found having nine diverse images patterns after conducting a (HCA) using Ward’s method; “Mixed Facilities and services”, “Touristic Facilities”, “Means of Transportation”, “Marine related Public spaces and Museum”, “Bay scenery and Iconic Landmarks”, “Contemporary Recreational and Historic Origins”, “Seasonal and Occasional”, “Technology and Research”, and “Commercial, Amusement, and Relaxation”. Updated media sources versions should be published to cope with such new plans by emphasizing the role of the place and promoting other elements that were not highlighted enough.

*Chapter six* is an examination which is not just to assess residents and public media perceived and projected images separately, but instead to compare and analyze in parallel both images. It is important to obtain these points of view to illustrate the positive and negative aspects concerning the environment’s image for the sake of urban planning and urban marketing redevelopment and improvement. This chapter contributed into

understanding comprehensively the images of Odaiba through extracting a combined data set of elements through seven patterns to provide a common evaluation basis for measuring and comparing the tendencies of the RPIs and MPIs through a (HCA) by SPSS using Ward's method for binary values of the element in terms of a [Code-Matrix] for the results of the RPIs and MPIs. After comparing between the perceived and projected images of Odaiba, the images generated are found having multiple forms based on the image contributors coming from the RPIs dimensions who are depending on the hidden intangible image psychological evaluation "Cognitional filter", besides the MPIs dimensions which rely on elements' analysis of the physical built environment through their "Selective filter". MPIs dimensions affected the RPIs dimensions and image patterns positively and negatively. Iconic Buildings, landmarks, and occasional events throughout the year are the main elements describing the residents' perception of Odaiba especially the Japanese.

Connecting Odaiba internally and the accessibility with the city center is considered a key aspect of promoting the image by the media to sustain its livability, performance, and the flow of users. Parks were one of the highest aspects of endorsing Odaiba by the MPIs, especially highlighting the role of Daiba park as the historic origin of Odaiba. On the contrary, Parks were not considered as important for residents. The commercial and recreational image is having almost a similar significant interest from both sides which might overwhelm the different aspects of life in Odaiba. It was also found that Guidebooks are generally having the same tendencies as foreign residents. While Online Guides and Pamphlets/Maps have common tendencies between Japanese residents and Foreigners. Though, the Websites are mostly having the same tendencies as Japanese residents. In general, the Japanese residents are having the same inclinations as the virtual MPIs sources. The similarities and conflicts spotted between the RPIs and MPIs tendencies occurred under certain conditions of the public media sources. According to the period, the variation of information provided, and the methods of delivery of the information by the media, the MPIs impact could vary and be changeable by time. The conditions and limitations, and methods of delivering images by the public media sources should be examined as they affect the users' images. The imageability of Odaiba was examined through generating a map of Odaiba categorizing the elements mentioned by residents and public media depending on the main five elements of the built environment based on the imageability theory by Kevin Lynch, the most important types describing the resident's images of Odaiba are the "Landmarks" and "Edges". While the public media tend to project their promotional images by using all the five types of urban design elements especially the "Edges, Landmarks, and Paths".

*Chapter seven* explains the broad image assessment methodology providing an extensive framework and model for multi-dimensional monitoring and interpretation of the global environment's images. The image of Odaiba is quite different as few residential blocks are inherited within several commercial, recreational, and sightseeing elements. The main aspect facing residents is living as a minority in an island promoted as a global, touristic, and leisure environment. In *chapter eight*, this study is also keen on proposing insights for image enhancement through improving the "Physical and Informational spaces" performance. This could be achieved through; first, the rejuvenation of the Waterfront, and the locality reconsiderations while enhancing the Japaneseness of Odaiba. Second, through an approach to transform Odaiba's global "spaces" into "places" by considering the human-oriented built environment and focusing on the need for a socio-communal cure. At last, by proposing insights into public information strategies through public media re-focus and suggestions for improving their conditions and limitations of image delivery. This study could add to the ongoing discussion about the significance of community and social concerns when assessing public satisfaction through global environment's images. It also could help various stakeholders in managing these images and take enhance actions by improving the current situation and the performance of these environments if the actual perceived images are tending to be negative. This could be happening in addition to revisiting the promoted images which should be based on the improved place management and plans as a vital way of place promotion and branding. This broad framework and model could be further adopted for evaluating the images of other global environments cases.

## 早稲田大学 博士（建築学） 学位申請 研究業績書

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○ Peer reviewed paper	<p>THESIS PAPER</p> <p>1) Mohamed, A., Goto, H., and Yamamura, S.: <i>Place Images Within Artificial Urban Environments in Tokyo Waterfront: An evaluation of the actual image through residents' perception patterns in Odaiba</i>, Journal of Architecture and Planning (Transactions of AIJ), Vol. 84, No.766, pp. 2585-2594, 2019. 12</p> <p>2) Mohamed, A., Goto, H., and Yamamura, S.: <i>Comprehensive Understanding of Place Images of an Artificial Urban Environment in Tokyo Waterfront: A study on Media Projected Images and various tendencies towards the image of Odaiba</i>, Journal of Architecture and Planning (Transactions of AIJ), Vol. 85, No.774, 2020. 8</p>
○ Poster session	<p>THESIS RELATED PRESENTATIONS</p> <p>1) Mohamed, A.: <i>Leisure platforms in the Global Age: A study on the attributes that shape the current image of Odaiba, Tokyo Bay</i>", The 59<sup>th</sup> Tokyo International Exchange Center Research and Presentation, "What is my study?", Japan Student Services Organization, 2018. 4. 21</p>