

# A Smart City Approach of Visitor's Spatial Experience in Night Markets of Taipei, Taiwan using Space Syntax Analysis

Wednesday, 3 April 2019 14:30 (30 minutes)

Stated as one of the most visited top attractions in Taiwan, night markets are well-recognized for their diversity and very distinct service model. When regular working hours have finished, night markets become an essential component of cities' urban fabrics. Thus, the understanding of these unconventional commercial areas has emerged as a very important research topic within multiple fields. Learning about night market's dynamics enhances in different ways and professional disciplines the improvement of the spatial experience regarding user-oriented design. It also contributes to those who find in this retail shops their means of employment. Shopping and recreation seen as the main activities source of income in night markets are also changing. Following how technology progresses every day, computing automation and convenient internet accessibility are stimulating shopping habits to evolve, consumer's spending behavior gradually become aligned with new developments, such developments play a very important role to bring data visualization forward to be interpreted creating a variety of utilization possibilities in near future.

This study first provides a theoretical and conceptual background that illustrates Taiwanese night markets' design logic and conceptual urban sense. It pretends as well, to identify their necessities of retail space management and appropriate preparation to deal with urgent situations with all available resources. Having such information can provide an updated analysis of the influences between visitors, vendors and the physical environment where they interact with when using these retail shops during their business hours. Surveillance and site observation's data are intended to be supported and accompanied by the integration of space syntax analysis model (heat maps), this pursues to proof how computing technology provides valuable information that can be integrated with IoT to further analysis, and subsequently its interpretation causes a tremendous impact on every aspect of service providers and customers' behavior.

Urban formations also shape customer's shopping behavior in a very direct way, the layout within night market areas taken as reference for this study is constantly being read by people while exploring these cityscapes. This exploration phenomenon is generated as outcome of a mental map navigation involvement, like an emotional picture of the exterior physical world that is held by every individual's intuition, this physical world is directly consequence of everything that a person observes and relates to the urban pattern where it is located. It's proven that visitor's sensorial experience is directly influenced by the environment they explore, all these elements produce a very unique spatial experience in visitors and locals, resulting in users unconsciously engaging into the experience so-called: "way-finding practice".

Very few studies have conducted a comprehensive experimental observation model of such spatial experience, there's no preceding record of any study taking into account the usage of new technologies and internet clouds' applications affecting customer's behavior in night markets. Moreover, integrating this knowledge to the relationship between space morphology and functioning forces offers a satisfactory support to the hypotheses that IoT and resulting data visualization can help to discover service innovation methods from social generated activities such as consumers big data through the utilization of mapping visitor's shopping behavior, tracking vendor's positions and then addressing the impact caused on business when introducing such technologies, this proposal also attempts to become an instrument to measure and diagnose the functionality, accessibility and usability of the services offered in night markets.

## Summary

Keywords: service design, smart environment, smart city, space syntax, internet clouds data, service innovation value, service evaluation, social network mapping, space experience

**Primary author:** Mr JAIME GOMEZ, Camilo Ariel (National Taipei University of Technology)

**Co-authors:** ALQUIJAY, Sara Sanchez (National Taipei University of Technology); Prof. WANG, Sheng-Ming (National Taipei University of Technology)

**Presenter:** Mr JAIME GOMEZ, Camilo Ariel (National Taipei University of Technology)

**Session Classification:** Humanities, Arts, and Social Sciences Application

**Track Classification:** Humanities, Arts, and Social Sciences (HASS) Applications