

A time-based approach for the social spatialization strategies in retail design

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1 Abstract

In the context of the developing Smart City, media revolution has changed user's behavior in the allocation of time and space, their perception turns to hybrid in real and virtual space (Bauman, 2000; Carpo, 2012, 2017; Groys, 2016; Ling & Campbell, 2017). Digital technology changed their shopping activities and experiences in personal and social environments (Alexander & Alvarado, 2017; Alexander & Cano, 2019; Iannilli & Spagnoli, 2021). As retail activities become more accessible at any time and location, and as omni-channel retailing (Barbara & Ma, 2021) disrupts retail stores' monopoly on shopping activities, brick-and-mortar retailers face to the threat of online shopping and must transform in this context.

Within the theory of urbanism, the concept of chrono-urbanism (Crang, 2001; Gwiazdzinski, 2014; Moreno, 2020; Mulíček et al., 2015; Neuhaus, 2015) is proposed as a critical step to question in depth people's lifestyles, production and consumption, to be aware of the existing dissociation between space and time. From the perspective of sociology and design disciplines, a time-based approach (Barbara, 2020; Barbara & Paoletti, 2020; Giedion, 2009; Groys, 2016; Leupen et al., 2005; Manzini, 2022) proposes a response to this phenomenon, where interior design could no longer be the same as before, because the fluidity of time would have reshaped the space. So, due to the intervention of time which conduct a dynamic form of spaces, how will time and digital tools intervene in the customization of shapes, dimensions and possible interactions? When referring to the user's activities and experiences, how will the interactive dimension be able to manage retail spaces in an adaptive way according to the demands of an increasingly diversified society? And how to develop a framework and chronotopes to coordinate retail space design for measuring the performance of social and shopping activities? This research seeks to investigate the interplay between digitalization, social activities, and user experience in the design of retail spaces, through an interdisciplinary perspective focused on time-based design. To achieve this objective, the research employs a two-phase approach. The first phase involves an exploratory study, which incorporates interpretive research of existing literature, structured expert interviews, and the development of grounded theory. The second phase



involves an experimental study that focuses on testing the developed design approaches and culminates in a synthesis of the findings and a conclusion (see Figure 1). This research aims to develop a time-based approach and chronotopes as design tools that can support the design process of future retail spaces.

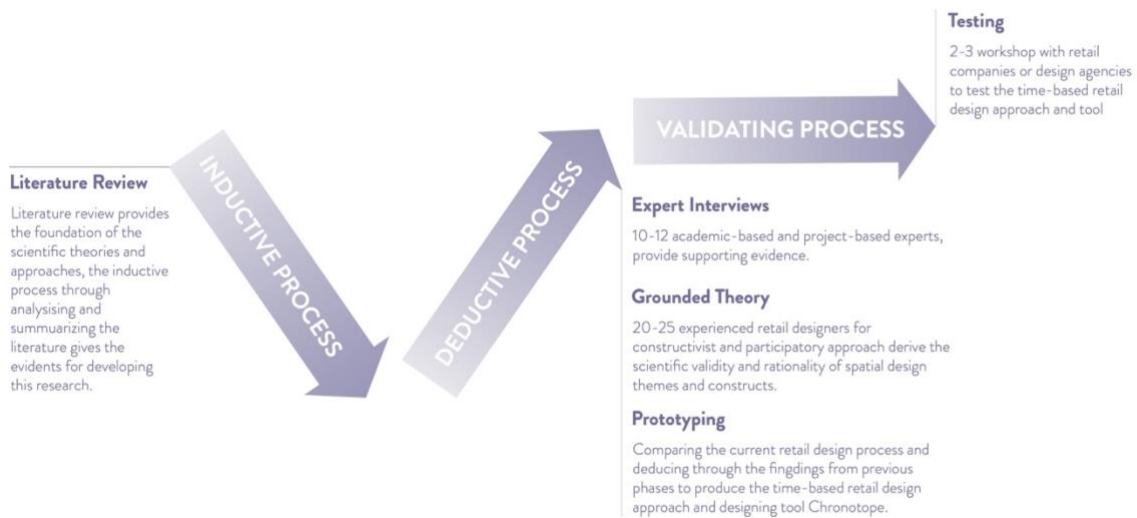


Figure 1. Research methodology framework.

The early finding shows that the use of digital technology in retail space design has changed the way people interact with physical spaces and each other. The relationship between physical and digital places is primarily a time-based relationship (Barbara, 2020) that alters the form of spaces resulting from this chrono-spatiality approach. The time paradigm (Barbara, 2022) introduces key performance indicators (KPIs) that are measurable, customizable, logistically efficient, and energy-saving. Smart devices have been mainly used to protect and build a cocoon (Ling & Campbell, 2017), connect to a network of digital belonging, and share information and traces of movements and lives. Retailers are redefining the value of physical retail spaces by blending experiences, communications, and interactions with consumers to build connections and communities both online and offline. It can be determined that time-based design has a positive impact on the field of spatial deformation and human-centered enhancement of people's quality of life.

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