

# **THE EMERGENCE OF HYBRID MARKETS FROM URBAN INNOVATIONS: THE CASE OF THE BUS RAPID TRANSIT MARKET IN CURITIBA, BRAZIL**

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## 1. Context and purpose

This research analyzed how the multiple urban innovations that took place in the public transit system in the city of Curitiba, Brazil, over a 30-year span, were a result of a combination of institutional processes led by the Institute of Urban Planning and Research of Curitiba (IPPUC) in partnership with private market actors. Specifically, we analyze how the development of the Bus Rapid Transit system (BRT) led to the creation of a hybrid market, that is, a market that combines four distinct institutional logics (cost-efficacy, environmental, aesthetic, and humanizing logics) in its four main elements (resource allocation, regulation, classification, and evaluation). The research period covered the market's transitions from a proto-market to market emergence, from market emergence to market consolidation, and from market consolidation to market diffusion. In the following paragraph, the overall and specific purposes are presented.

**Overall purpose:** This research aimed to analyze how institutional complexity and institutional work performed by social actors can lead to the emergence of a hybrid market in the context of urban innovation in transport systems.

### Specific purposes

- I. Characterizing the urban innovations that had occurred in the development of the bus rapid transit system;
- II. Identifying the main actors that were involved in the process of development of the bus rapid transit system market;
- III. Capturing the underlying logics of the market that have emerged from the development of the bus rapid transit system market in Curitiba;
- IV. Investigating the types of institutional work held by the previously identified actors to embed logics other than market logics during the emergence of the bus rapid transit hybrid market;
- V. Analyzing how the process of hybrid market emergence have unfolded during the implementation of the urban innovations in the bus rapid transit system in Curitiba.

## 2. Theoretical foundations

TABLE 1 – MAIN CONCEPTS

Main concepts and constructs	Definition	Main references
Hybrid markets	Those in which the definition of formal and informal rules and norms underlying economic and social transactions (regulation), the infrastructure and resource allocation, the actors allowed to perform market exchanges and the roles performed by them, as well as the perception of value of the goods and services available in the marketplace (evaluation), are socially constructed and defined by logics other than a solely economic/commercial one.	Aspers, 2018; Beckett (2009); Fligstein & Dauter (2007); Lee, Struben & Bingham (2018).
Institutional complexity	Institutional complexity is reflected in a situation where organizations face multiplex pressures for conformity to plural institutional logics.	Greenwood et al (2011); Jay (2013); Micelotta, Lounsbury, & Greenwood (2017).
Institutional work	The act of promoting institutional change through the creation, maintenance, or disruption of current institutions.	Zietsma & Lawrence (2010); Lawrence & Suddaby (2006); Lawrence, Suddaby & Leca (2011).

## 3. Methodological procedures

TABLE 2 – SUMMARY OF THE RESEARCH METHODS

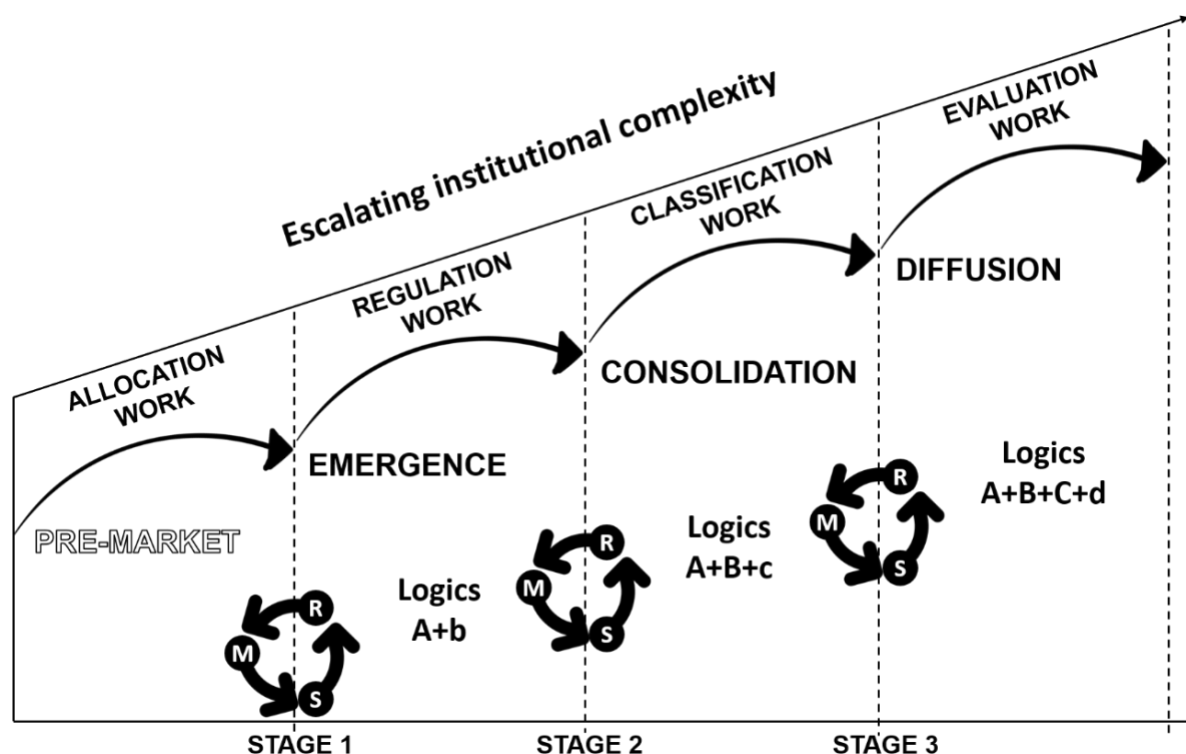
The research problem	Ontology, epistemology and logic	Research design	Methodological rigor	Empirical setting
How institutional complexity and institutional work performed by social actors can lead to the emergence of a hybrid market in the context of urban innovation in transport systems	Constructionist ontology Interpretivist epistemology Inductive logic	Qualitative single case study Level of analysis: market Unity of analysis: relational Object of analysis: the market originated from the development of the bus rapid transit system in the city of Curitiba, Brazil. Temporal dimension: Longitudinal Data collection: 24 Semi-structured interviews held with 23 informants and archival data Data analysis: Grounded theory methodology	<i>Ex-ante</i> and <i>ex-post</i> rigor Careful research design and data collection (e.g. sampling) Data structure Credibility Transparency Reflexivity Transferability Boundary conditions Limitations	The emergence of the hybrid market from the urban innovations that led to the development of Bus rapid system in the City of Curitiba, Brazil

## 4. Main findings and reflections

- The creation and development of the bus rapid transit market from the urban innovations that took place in Curitiba required the institutional work from the City Hall, IPPUC, and partner market organizations to create the market infrastructure and supply chain (**allocation work**), establish the rules and norms of participation in this emerging marketplace (**regulation work**), redefine the competitive standards of the market (**classification work**), and change the perception of the internal and external audiences regarding the bus as an efficient mass transit system (**evaluation work**).
- The emergence of a hybrid market was due to the influence of shifts in the institutional logics that guided the public planning in the city of Curitiba. As the market evolved, the bus rapid transit in Curitiba ended up with a complete set of hybrid logics (humanizing, cost-effectiveness, ecological, and aesthetic logics) that characterized the market's escalating institutional complexity.

- The emergence of the bus rapid transit market from an urban innovation took place in three different and subsequent stages: transition from a proto-market to market emergence, transition from a recently emerged market to market consolidation, and transition from a consolidated market internally to market diffusion, when the BRT market became spread to over 200 cities all over the Globe.

FIGURE 1 – PROCESS THEORIZING OF HYBRID MARKET EMERGENCE



NOTE A: R = Relational Work, M = Material Work, and S = Symbolic Work

NOTE B: Logics represented by uppercase letters are predominant while logics represented by lowercase letters are latent

## 5. Practical implications

- Public managers and City Hall administrations can rely on these findings to develop hybrid markets in several key areas of public service that affect global population's quality-of-life and well-being (i.e. grand societal challenges), such as sanitation, public health, housing, food production and distribution, trash collection and recycling or even education.
- Public policies can be developed to create successful hybrid markets by establishing trustful relationships with market actors and funding agencies, creating shared codes and languages, and finding partners that believe in the project (like Marcopolo, Volvo, and other market actors did in the case of Curitiba).



- These findings provide public policymakers insights on how to combine the best out of private market actors (efficacy, capability to produce the urban innovations, and their ability to spread the social benefits of the hybrid market beyond its original context through diffusion mechanisms) with the best out of the public organizations (effectively organizing the market through regulation work, a systemic view of the market that allows seeing beyond the private market eyes can reach in terms of environmental, social, and even cultural positive impacts of the emergence of hybrid markets, their deep understanding of the needs of the city's populations that need to be addressed by the hybrid market actors).
- Public managers can learn from the case of the emergence of the BRT hybrid market that inexpensive creative solutions can and must be found locally through urban innovations. Additionally, the case shows that resisting the pressure for implementing sophisticated and more complex imported solutions (i.e. the light-rail vehicles, tramways, or subways) in detriment of developing the local solution further is essential achieving fine-tuned urban innovations.
- Private organizations can take advantage of the relationships established with urban planners of innovative cities like Curitiba. The BRT as a transport system was mainly invented and developed by IPPUC and URBS' staff, but the end product of such development was a transport model that was ready to be adapted and sold by actors from the value chain to any other city in the world. Although the companies that are part of the development of the urban innovations may not guarantee access to other markets, they will certainly have a convincing argument to get it by having the know-how and the connections (social capital) to make the hybrid market work in contexts other than where they were invented.

## 6. Social impact of the research

This work contributes to advancing the UN's Sustainable Development Goals by investigating how local governments can engage with private market actors to foster the creation of urban innovations that can help develop sustainable cities. The motivation to work in cities comes from the fact that although the United Nations predicts that, by 2050, two-thirds of the world's population will live in urban areas, only half of the world's urban population have convenient access to public transport. In this regard, this work addresses SDG 11 (Sustainable Cities and Communities). Moreover, by investigating and showing how hybrid markets can be created from the partnerships between public and market actors, this work also sheds light on how SDG 4 (Industry, Innovation, and Infrastructure) can be addressed during the market creation and diffusion process.

## 7. Link to access the complete research file

<https://acervodigital.ufpr.br/handle/1884/66494>

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