

Smart Cities under the Lens of Cultural Branding and Education

The Case of Palmas – TO in Northern Brazil

Yasmin Barbosa de Carvalho Humberto Xavier de Araujo Bruno Sousa Dias Samuel de Andrade Lopes Suzana Gilioli Nunes Nailson Martins Dantas Landim

Federal University of Tocantins, Palmas, Brazil

Presenter: YASMIN BARBOSA DE CARVALHO

Affiliation: FEDERAL UNIVERSITY OF TOCANTINS – PALMAS – BRAZIL

Email: YASMINBC@GMAIL.COM



About the Presenter



YASMIN BARBOSA DE CARVALHO

PhD candidate in Governance and Digital Transformation, Researcher in the area of Innovative Development, Cultural Branding of Cities and Smart Cities. Master's degree in Public Policy Management. Executive MBA in Public Management. Bachelor's degree in Business Administration. Has experience in Public Management.

Workgroup & Research Context



Core Expertise

Urban Innovation, Public Policy, and Smart City Technologies.

Research Focus

Investigating the critical intersection of digital governance, educational infrastructure, and local cultural identity within emerging urban ecosystems.

Key Milestones

- Analyzed the Connected Smart Cities Ranking for regional disparities.
- Developed the Palmas Cultural Branding Blueprint.
- Spearheaded integration frameworks for tech and heritage.



Introduction: Beyond Technological Infrastructure

The development of Smart Cities is traditionally associated with technological infrastructure and data-driven governance.

However, empirical evidence indicates that technology alone is insufficient to foster sustainable urban ecosystems.

- **The Human Factor:** Transforming into a Smart City demands systemic transitions involving the co-evolution of technology, culture, and governance.
- **Cultural Diversity:** In large, culturally heterogeneous countries like Brazil, standard tech-only solutions often fail to integrate with local public policies or strengthen urban identity.
- **Objective:** This research explores the strategic necessity of integrating cultural branding, educational institutions, and civic participation into urban innovation processes, using Palmas-TO as a primary case study.



Methodological Approach

Research Design

The study adopts a **qualitative exploratory approach**.

This design is appropriate for investigating the complex intersections between urban development, local culture, and institutional capacity in emerging urban environments.

A systematic literature review was conducted to establish theoretical frameworks around Soft Power, Place Branding, and Smart Cities.

Empirical Execution

The research relies on an empirical case study of Palmas, the capital of Tocantins (Northern Brazil). Data collection strategies included:

- Documentary analysis of institutional initiatives.
- Observation of public policies related to urban innovation and digital inclusion.
- Qualitative content analysis to identify patterns related to cultural identity and knowledge production.

Conceptual Framework: Soft Power & Branding



Soft Power

Defined by Joseph Nye, it is the ability of a country or city to use its image to attract investment and progress via ideas, culture, and values, rather than coercive means. It generates tangible financial returns and global recognition.



Place Branding

The network of associations in consumers' minds based on a location's visual, verbal, and behavioral expression. It is multidimensional, requiring rigorous analysis of local history, ecosystem, and policies.



Practical Implementation

Brazil's most projected city, Rio de Janeiro, leverages branding via natural beauty and cultural heritage (Samba, Carnival). Promoting cultural branding requires integrating these unique elements with strategic digital tools.

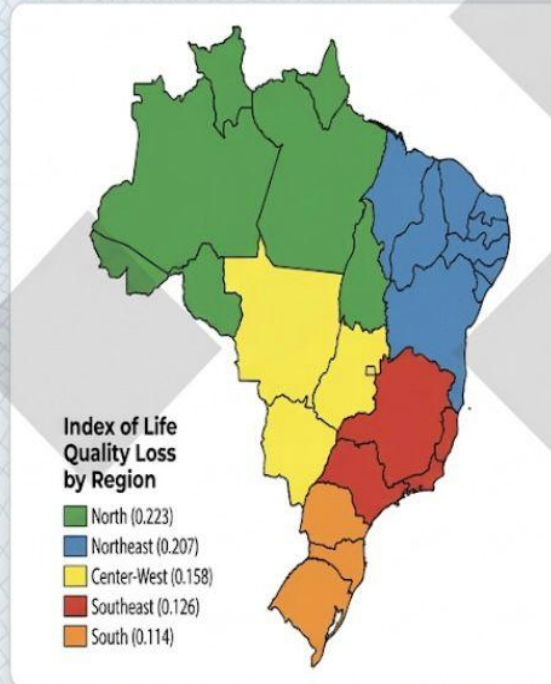
Smart Cities in the Brazilian Context

The **Connected Smart Cities Ranking** is the primary metric evaluating urban development in Brazil. It assesses mobility, infrastructure, sustainability, health, security, education, and economy.

The Regional Disparity: The ranking reveals severe disparities. Southern/Southeastern cities dominate, while Northern/Northeastern cities display lower infrastructural indices.

Critical Omission: The evaluation criteria systematically ignore cultural identity. In regions like the North, rich cultural heritage is a vital economic and social asset that is not quantified in the current Smart City paradigm.

The Brazilian Paradox: Technology Grows, Inequality Remains



1
Montserrat
General retraction of the IPQV (from 0.227 to 0.157), but with profound territorial asymmetries.

2
Montserrat
The North Region leads in the loss of quality of life (0.223).

3
Montserrat
Critical breakdowns: Rural areas (0.246), Black/Brown population (0.185), Uneducated population (0.255).

Isolated technological advancement does not reach the base of the social pyramid.

Palmas-TO: An Emerging Smart City

Founded in 1989, Palmas is a planned city with structural advantages for mobility and environmental integration. It has been ranked the **smartest city in Northern Brazil for four consecutive years.**

The Role of Academia: The Federal University of Tocantins (UFT) acts as the critical institutional actor, functioning as an innovation hub that drives research, digital inclusion, and technological experimentation.

Cultural & Environmental Assets: Landmarks such as Praia da Graciosa and surrounding natural reserves provide a robust foundation for building an authentic cultural brand aligned with sustainable urban development.



A 3-Dimensional Cultural Branding Strategy

1. Culture & Local Identity

Leveraging regional history, heritage, traditional handicrafts, and diverse cultural manifestations. This includes utilizing environmental assets like Palmas Lake for a structured nautical events agenda, boosting cultural and sustainable tourism.

2. Digital Inclusion

Focusing on basic and advanced digital literacy programs. Citizen participation relies heavily on ensuring the population has the competencies to actively engage in digital environments and utilize Smart City infrastructure.

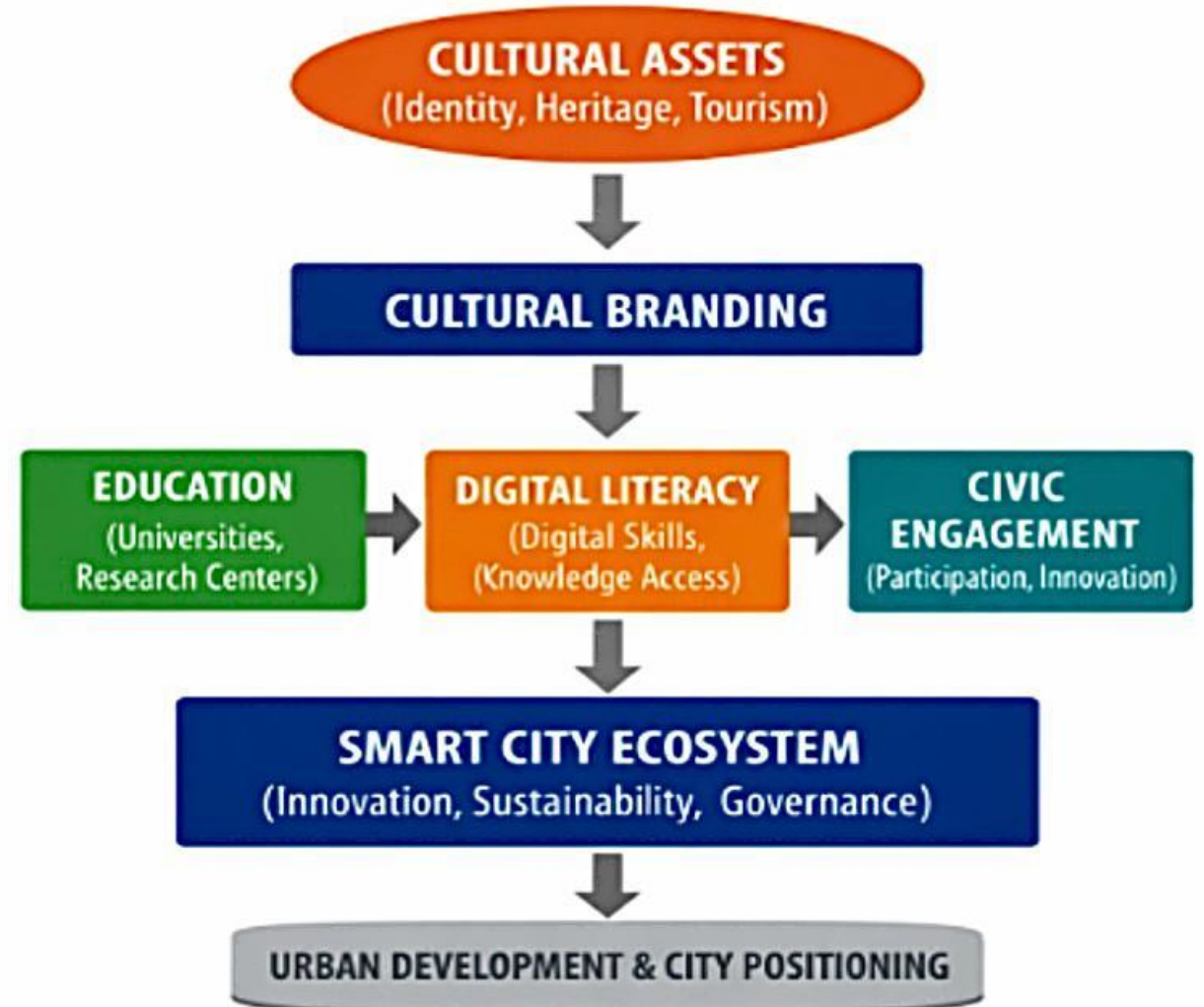
3. Digital Governance & Sustainability

Implementing participatory platforms, e-governance initiatives, and technological tools that facilitate dialogue between citizens and public administrators. Requires training programs for managers aligned with the UN Sustainable Development Goals (SDGs).


Conceptual Model of the Ecosystem

The study proposes a conceptual flow demonstrating that Smart City ecosystems are products of integrated socio-cultural factors, not isolated technology.


- **Cultural Assets** (heritage, tourism) form the foundation of **Cultural Branding**.
- This branding is operationalized through **Education** (Universities, Hubs).
- Education drives **Digital Literacy**, which directly enables **Civic Engagement**.
- The convergence of these elements forms a true, sustainable **Smart City Ecosystem**.




Technology as a Cultural Enabler

 **Immersive Experiences:** Utilizing Virtual Reality (VR) to digitize and present local traditional dances (e.g., Sússia, Catira) and historical itineraries, bridging modernity with indigenous/regional traditions.

 **Digital Archives & Big Data:** Digitizing historical records and local festivals (like the Taquaruçu Gastronomic Festival) while using big data analytics to monitor tourism trends and optimize urban branding strategies.

 **Gamification & Platforms:** Implementing interactive panels in public parks, gamified applications based on local narratives, and AI-based cultural assistants to enhance public engagement.

 **Social Purpose of Tech:** Reinforcing the premise that "all technology is social par excellence." Technological development must aim at resolving local societal issues and enhancing the citizen experience, guided by academic partnerships.

Conclusion & Future Works

Smart city development cannot be evaluated exclusively through technological infrastructure. It requires a broader approach integrating cultural identity, education, and social participation.

Emerging cities like Palmas represent alternative pathways where cultural assets and educational institutions (like UFT) act as primary catalysts for innovation.

Future Research: Future works should prioritize comparative analyses involving other emerging cities in Latin America, incorporating quantitative methods to accurately measure digital literacy, citizen perception, and the specific socio-economic impact of cultural branding initiatives.