

E-BOOK OF EXTENDED ABSTRACT

THE 14TH INTERNATIONAL INVENTION, INNOVATION & DESIGN COMPETITION 2025



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SMART TOURISM AS A CATALYST FOR SMART CITY DEVELOPMENT: A CASE STUDY ON MOBILE APPLICATION UTILIZATION FOR PROMOTING LOCAL PRODUCTS IN PASIR GUDANG, JOHOR, MALAYSIA

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ABSTRACT

The concept of smart cities has gained global prominence in recent years, with urban planners and policymakers increasingly leveraging digital technologies to enhance the quality of life, improve service delivery, and foster sustainable development. A significant element of this transformation is the integration of smart tourism, which utilizes information and communication technologies (ICTs) to enrich the tourism experience, optimize tourism management, and support local economies. In Malaysia, the push toward smart city initiatives is aligned with national digital transformation agendas. Pasir Gudang, a strategically located industrial town in Johor, is beginning to explore tourism as a complementary sector to diversify its economy. With mobile applications playing an increasingly important role in shaping consumer behavior and engagement, there is a timely opportunity to study their effectiveness in promoting local products and fostering community participation within the framework of smart tourism and smart city development.

Keyword: smart tourism, smart technology, technology attributes, smart destination

1. INTRODUCTION

In the past decade, the convergence of smart city principles and smart tourism strategies has transformed how destinations manage resources, promote local products, and engage residents and visitors alike. Smart cities integrate digital infrastructure, data analytics, and participatory governance to enhance urban liveability, while smart tourism leverages the same technologies to enrich travel experiences and build competitive, resilient destinations. Pasir Gudang—a rapidly industrialising city in Johor, Malaysia—now faces the dual challenge and opportunity of aligning its economic growth with sustainable, community-centred development.

Mobile applications sit at the heart of this transformation. They provide an always-on interface through which destination managers can push timely information, small and medium enterprises (SMEs) can showcase authentic local products, and citizens can co-create content, report issues, or join events. Yet empirical evidence on how such apps influence local product promotion and community engagement in mid-sized Malaysian cities remains limited.

By combining stakeholder interviews, user analytics, and on-ground observations, the study aims to generate actionable recommendations for policymakers, app developers, and local entrepreneurs which inclusive of special abilities and indigenous community at Pasit Gudang. Ultimately, the findings will contribute to Malaysia’s national vision of embedding smart technology within urban development while ensuring that the benefits flow equitably to the communities who call Pasir Gudang home.

2. METHODOLOGY

The study adopted a qualitative case-study approach centered on Pasir Gudang.

- a) Semi-structured interviews were conducted with key stakeholders, including local government officials, tourism operators, app developers, and community representatives.
- b) Surveys were administered to residents, tourists, and local entrepreneurs to gauge their user experience and engagement with tourism-related mobile applications.
- c) Document analysis was carried out on relevant policy papers, tourism strategies, and existing mobile-app features.

The collected data were analyzed through thematic analysis for qualitative inputs and basic descriptive statistics for survey results. Findings were triangulated across methods to strengthen their validity.

3. FINDINGS

This study showed that mobile applications had clear, measurable benefits for businesses willing to transact in-app and for municipal services that actively mined usage data. However, content freshness, governance coordination, and digital-skills gaps constrained broader impact. When incentives and convenient payment features were introduced, both sales and civic participation improved markedly, suggesting that a focused upgrade roadmap—coupled with vendor training—could unlock Pasir Gudang’s full smart-tourism potential. The findings from this study provided valuable insights into the role of mobile technology in local tourism development and smart city planning. It also served as a reference for other medium-sized cities in Malaysia that aspired to integrate digital tools into tourism and community engagement efforts.

This study highlighted the untapped potential of mobile applications in promoting local products and engaging the community within a smart tourism framework. While some gains were made—particularly for digitally ready businesses and data-informed municipal services—the broader impact was constrained by governance fragmentation, digital literacy issues, outdated content strategies, and limited community ownership.

The findings emphasized the need for:

- a) A coordinated digital strategy and governance structure.
- b) Capacity-building programs for local businesses.
- c) Real-time, user-friendly content management tools.
- d) Integration with popular platforms (e.g., WhatsApp, social media).
- e) Incentive-driven features to increase engagement and adoption.

4. CONCLUSION

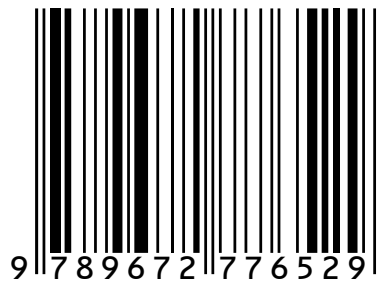
The use of a mobile application to promote local products by the community in Pasir Gudang brings multiple advantages. It extends market reach beyond local limits, allowing entrepreneurs—including persons with disabilities and Indigenous groups—to showcase and sell their products to a broader audience. This digital platform promotes economic empowerment by providing income opportunities for those with limited physical access to markets. Its inclusive features ensure accessibility for users with special needs, while also supporting the preservation and promotion of Indigenous heritage through traditional products. Furthermore, it fosters community collaboration, offers real-time marketing tools, and includes educational resources to enhance digital and entrepreneurial skills. The app also opens pathways for support from government bodies and NGOs, contributing to the development of an inclusive, innovative, and sustainable local economy.

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