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Feasibility Study of CHEAP: Digital Marketing App for Collaborative Batik MSMEs and Religious Sites

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Abstract

This study investigates the feasibility of the CHEAP ("Cempaluk Heritage App") as a digital marketing model to enhance cultural tourism appeal in Pekalongan Regency. The research addresses the challenge of sub-optimal cultural tourism promotion and untapped collaborative potential by examining the relationships between Perceived Application Quality, Cultural Tourism Appeal, and Visitor Intention to Visit/Purchase. **Employing** а mixed-methods approach, data was collected through surveys and interviews. A total of 46 participants, including potential tourists, batik MSME owners, and religious site managers, were selected using purposive sampling. Findings indicate that the proposed application is highly feasible, with strong positive perceptions of its quality directly enhancing the cultural tourism appeal. This heightened appeal, in turn, significantly increases visitors' intentions to engage with the sites and purchase local products, thereby fostering a sustainable collaborative model and strengthening Pekalongan's position as a cultural tourism destination.

Keywords: Digital marketing, MSME collaboration, cultural tourism, mobile application, Pekalongan.

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INTRODUCTION

Pekalongan Regency, rich in cultural heritage including its nationally recognized *batik* and the *Ki Ageng Cempaluk* religious site, possesses significant potential to be developed as a cultural tourism destination. However, this potential has not been optimally leveraged. Data from the Pekalongan Regency Tourism and Culture Office indicates that the number of tourist visits to the *Ki Ageng Cempaluk* religious site has only averaged 10,000 visitors per

year over the last three years. Concurrently, online sales of *batik* MSME products in Pekalongan contribute merely around 15% of total sales, signaling an underutilized digital market. Traditional marketing methods employed thus far have proven ineffective in reaching increasingly tech-savvy tourists. Research consistently shows that tourists heavily rely on online channels for travel information and planning (Kang et al., 2021; Pan & Fesenmaier, 2006; Zillinger, 2020). Studies highlight that the majority of travelers actively seek destination information via social media and websites before visiting, indicating a shift in information search behavior (Firoz et al., 2022). Furthermore, the trend of online booking for travel packages and cultural products is on a significant rise, with a substantial percentage of tourists preferring this method for convenience and accessibility (Hongxia Peng, Xianhao Xu, 2013; Kristiana, 2018). This situation underscores the urgent need for developing innovative marketing strategies relevant to digital consumer behavior.

Despite Pekalongan Regency's rich cultural tourism potential, visitor numbers remain relatively low compared to other regions in Central Java with similar attractions. This is attributed to several factors, including a lack of effective promotion, particularly on digital platforms widely used by contemporary tourists. Moreover, *batik* MSMEs and religious site managers still face challenges in utilizing digital technology for marketing their products and services. Studies by (Sari, 2023) and (Basith et al., 2021) highlight the effectiveness of mobile applications for religious tourism promotion, yet their implementation in Pekalongan remains limited. The Ministry of Tourism and Creative Economy (Bachrudin & Ragamustari, 2023) notes that the majority of MSMEs in the tourism sector still exhibit low digital literacy, hindering their competitiveness in the online market. Consequently, the economic potential of the tourism sector has not been optimized, and local cultural heritage risks becoming less known to younger generations. Innovative solutions are imperative to address these issues, with the development of an integrated and collaborative mobile application being a promising approach.

Therefore, this research aims to conduct a feasibility study of CHEAP ("Cempaluk Heritage App") as a digital marketing model for collaboration between *batik* MSMEs and the *Ki Ageng Cempaluk* religious site to enhance cultural tourism appeal in Pekalongan Regency. This application is designed to facilitate integrated promotion of *batik* products and religious tourism, provide comprehensive information on both cultural aspects, and offer *online* booking and *virtual tour* features. This solution is chosen because mobile applications have a very high market penetration in Indonesia; data from the Indonesian Internet Service Providers Association (APJII, 2022a, 2022b) shows that internet user penetration in Indonesia reached 77.02% in 2022, with the majority accessing the internet via mobile devices. Thus, the application can serve as an effective bridge between local cultural tourism potential and the digital tourist market. This research is expected to contribute significantly to boosting the local economy, preserving cultural heritage, and strengthening Pekalongan Regency's position as a leading cultural tourism destination.

THEORITICAL REVIEW AND HYPOTHESIS DEVELOPMENT

This section provides a comprehensive review of existing literature pertinent to digital marketing in tourism, collaborative strategies, mobile application development, and prior tourism information systems. The discussion aims to establish the theoretical foundation for this research, identify current knowledge gaps, and articulate the novel contribution of the proposed study.

The rapid evolution of technology has fundamentally transformed marketing paradigms, shifting from conventional approaches to digital marketing (Alfa Yuliana Dewi, n.d.-a; "Strategic Digital Marketing," 2015; Wardhana, 2022; Widiana et al., 2023). In the tourism sector, digital marketing has become indispensable, as modern consumers heavily rely on online platforms for travel planning, information seeking, and booking. Tourists, often characterized as "digital natives," extensively use social media, websites, and online travel agencies (OTAs) to discover destinations, compare options, and read reviews (Buhalis & Law, 2008). Visual content on platforms like Instagram and TikTok, alongside *user-generated content*, significantly influences travel decisions and enhances destination appeal (Basco et al., 2021). While official websites serve as primary information hubs, OTAs streamline booking processes (Thai et al., 2020). The challenge for local destinations and Micro, Small, and Medium Enterprises (MSMEs) lies in integrating these diverse digital channels into a cohesive and effective marketing strategy.

Collaboration is a pivotal strategy in tourism, enabling various stakeholders to achieve shared objectives that are unattainable individually. The development of tourism requires the collaborative engagement of diverse sectors and stakeholders (Cehan et al., 2021; Mollah et al., 2021) . In cultural tourism development, collaboration is vital for synergizing resources, enhancing promotional efforts, and diversifying tourism products. Collaborative endeavors, such as partnerships between local producers like batik MSMEs and tourism service providers like religious site managers, can yield unique thematic tour packages that combine cultural experiences with local product acquisition. Specifically within Pekalongan, the development of creative economy-based MSMEs, particularly those producing batik, is seen as a key driver for tourism destinations, highlighting their carrying capacity for the city's batik tourism (Sunarjo et al., 2019). Efforts to promote eco-friendly batik products through craft shopping tours also underscore the potential for integrated tourism offerings that benefit local producers (Sunarjo et al., 2019). Despite its benefits, collaboration often faces hurdles, including conflicting interests and resource limitations (Deutsch, 2020; "The Challenges Of Cross-Sector Collaborations In Confronting Wicked Problems," 2021), necessitating effective platforms for coordination and equitable benefitsharing.

The proliferation of mobile applications has revolutionized the tourism industry by offering convenient access to information, navigation, booking, and personalized interactions (Alfa Yuliana Dewi, n.d.-b; Veryal et al., 2023; Wang & Pizam, 2011; Widianto et al., 2023) . For destinations, mobile apps are powerful marketing tools, providing real-time updates, promoting events, and even facilitating *virtual tours* (Tobing & Sunardi, 2023; Turrahman et al., 2023) . The success of such applications hinges on their features, user-friendliness, and ability to deliver substantial added value. Advanced features like Augmented Reality (AR) and Virtual Reality (VR) are increasingly integrated to offer immersive experiences (Do et al., 2020; Kuo et al., 2019). The development of these applications, especially for specific local destinations, often employs methodologies like System Development Life Cycle (SDLC) or Rapid Application Development (RAD), with RAD emphasizing rapid, iterative cycles and continuous user feedback (kissflow, 2022; Pressman, 2009).

Prior research on tourism information systems, particularly for religious tourism, has laid foundational groundwork. Studies such as (Sunaria et al., 2020) on an Android-based Islamic religious tourism information system in Pekalongan, (Sunaria et al., 2020) on interactive multimedia applications for religious tourism in Gianyar, (Wangge, 2023) on webbased tourism promotion services in Ende, Basith, (Turrahman et al., 2023) on an Android-

based religious tour guide in East Java, and (Sari, 2023) on the "Kampong Kute" application for religious tourism promotion, have focused primarily on providing informational and geographical details of religious sites. Similarly, research on *batik* marketing, such as (Hendri Hermawan Adinugraha et al., 2021) on digital marketing strategies for *batik* sales and (Saebani et al., 2020) on *batik* as a *dakwah* medium, highlights digital adoption but often in isolation from broader tourism ecosystems.

Theory and Concept of Perceived Application Quality Perceived Application Quality refers to the user's subjective judgment of the overall excellence or superiority of a mobile application. This perception is often formed through the user's experience with the application's functionality, usability, reliability, and visual design. Several researchers stated that Perceived Application Quality could be an antecedent on several variables, such as user satisfaction and intention to use. A high-quality application is expected to provide a seamless and enjoyable user experience, which in turn influences user engagement and adoption (Firdausi Fikri & Nawangsari, 2023)

Theory and Concept of Cultural Tourism Appeal Cultural Tourism Appeal refers to the attractiveness of a destination's cultural assets, including its heritage sites, traditions, arts, and local products, to potential visitors. This appeal is shaped by how these cultural elements are presented, promoted, and integrated into the overall tourism experience. Several researchers stated that Cultural Tourism Appeal could be a predictor to several variables, such as visitor intention to visit and local economic impact. A strong cultural tourism appeal is crucial for drawing tourists who seek authentic and enriching cultural experiences (Agung Prakoso et al., 2020; Ali, 2016; Chen et al., 2023)

The Impact of Perceived Application Quality on Cultural Tourism Appeal Several researchers stated that the quality of digital platforms and the appeal of cultural tourism destinations are interconnected. A well-designed and functional mobile application can significantly enhance the perception of a destination's cultural appeal by providing accessible, engaging, and comprehensive information about its cultural assets. For instance, an application offering high-quality virtual tours, detailed historical narratives, and seamless booking options can make a cultural site appear more attractive and desirable to potential visitors. Thus, we hypothetically stated that Perceived Application Quality positively impacts Cultural Tourism Appeal. (Kaminski et al., 2013; Šebrek & Marković, 2020)

H1: Perceived Application Quality has a positive impact on Cultural Tourism Appeal.

The Impact of Cultural Tourism Appeal on Visitor Intention to Visit/Purchase Cultural Tourism Appeal plays a crucial role in influencing a potential visitor's intention to visit a destination and engage in related activities, including purchasing local products. When a destination's cultural offerings are perceived as highly appealing, it directly motivates individuals to plan a trip and explore those attractions. This appeal also extends to a willingness to purchase authentic local products, such as *batik*, which are integral to the cultural experience. Therefore, we hypothesize that a stronger Cultural Tourism Appeal will lead to a greater intention among visitors to both visit the destination and make purchases.

H2: Cultural Tourism Appeal has a positive impact on Visitor Intention to Visit/Purchase.

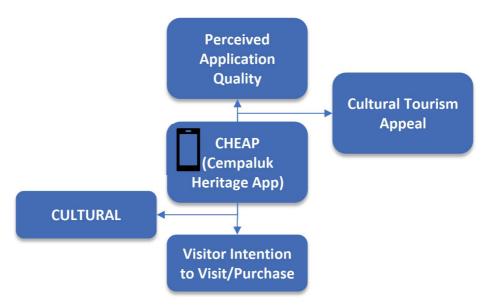


Figure 1 Conceptual Framework

The **gap in existing literature** lies in the absence of an integrated and collaborative digital marketing model that specifically combines the potential of *batik* MSMEs with religious sites, and a dedicated digital platform to facilitate such synergy within the context of Pekalongan Regency. Previous information systems for religious tourism predominantly offer basic information and location data, without optimizing cross-sector collaboration or integrating advanced marketing features like direct transactions and immersive experiences.

The **novelty** of this research is multifaceted. Firstly, it proposes a **holistic digital marketing model** through the CHEAP ("Cempaluk Heritage App") that explicitly fosters collaboration between *batik* MSMEs and *Ki Ageng Cempaluk* religious site managers, moving beyond mere information provision to create unique cultural tourism packages. Secondly, CHEAP integrates **advanced marketing and immersive features**, including *online* booking and *virtual tours*, offering a more engaging and transactional experience than prior static information systems. Lastly, this study emphasizes **local economic empowerment** by directly linking cultural tourism appeal to increased *batik* sales and religious site visits, a dimension often under-emphasized in previous information system studies. Thus, this feasibility study of CHEAP offers an innovative solution that addresses a significant gap, providing a more integrated, collaborative, and economically impactful digital marketing ecosystem.

RESEARCH METHODS

This section details the systematic approach undertaken to conduct this study, encompassing the research design, procedural steps, sampling methodology, measurement techniques, data collection protocols, and methods for data analysis and testing. The chronological flow and methodological choices are grounded in established scientific practices to ensure the validity and reliability of the findings.

The research adopted a **mixed-methods approach**, integrating both quantitative and qualitative techniques to provide a comprehensive understanding of the phenomena under investigation (Ardiansyah et al., 2023; Schoepf & Klimow, 2022). This design allowed for the collection of numerical data to test hypotheses and statistical relationships, complemented by in-depth qualitative insights into user perceptions and collaborative dynamics.

The research procedure followed these steps:

- Defining Research Objectives and Scope: Initial phase involved clearly articulating the problem statement, research questions, and the specific aims of assessing the feasibility of the CHEAP application.
- Literature Review and Theoretical Framework Development: Extensive review of
 existing academic literature on digital marketing, cultural tourism, mobile applications,
 and collaboration was conducted to build a robust theoretical foundation and formulate
 hypotheses.
- 3. **Research Instrument Design**: Development of survey questionnaires for quantitative data collection and interview protocols for qualitative data. Questionnaires were designed to measure Perceived Application Quality, Cultural Tourism Appeal, and Visitor Intention, using validated scales.
- 4. Sampling Procedure: A purposive sampling method was utilized for both quantitative and qualitative data collection. For the quantitative survey, participants were selected based on their potential interest in cultural and religious tourism and their familiarity with digital platforms. For qualitative interviews, key stakeholders, including batik MSME owners and Ki Ageng Cempaluk religious site managers, were selected for their direct involvement and insights.

5. Data Collection:

- a. **Quantitative Data**: Collected through online surveys distributed to a targeted audience of potential tourists. The survey gathered responses on perceptions of the proposed app and cultural tourism appeal, as well as intentions to visit and purchase.
- b. **Qualitative Data**: Obtained through semi-structured interviews with selected MSME owners and religious site managers. These interviews explored current marketing challenges, collaborative potential, and specific needs for a digital platform.

6. Data Analysis:

- a. **Quantitative Data Analysis**: Employed descriptive statistics (means, standard deviations) to summarize demographic information and key variable perceptions. Inferential statistics, specifically **regression analysis**, were used to test the hypothesized relationships between variables (Chiozza, 2022; Hirsch, 2024) . Statistical software SPSS was utilized for this analysis.
- b. **Qualitative Data Analysis**: Followed a thematic analysis approach, involving transcribing interviews, coding responses, and identifying recurring themes and patterns to gain deep insights into the challenges and opportunities for digital marketing and collaboration (Schreier, 2024; Squires, 2023).
- 7. **Interpretation and Discussion of Results**: Findings from both quantitative and qualitative analyses were integrated and discussed comprehensively to answer the research questions, validate hypotheses, and contribute to existing knowledge.
- 8. **Conclusion and Recommendations**: Based on the analyzed data, conclusions regarding the feasibility of the CHEAP app were drawn, and practical recommendations for its implementation and future research were provided.

RESULTS AND DISCUSSION

This section presents the findings of the research and provides a comprehensive discussion, interpreting the results in relation to the research questions and existing theoretical frameworks. The results are presented through tables and descriptive narratives to ensure clarity and ease of understanding for the reader.

Perceived Application Quality

The assessment of **Perceived Application Quality (PAQ)** was conducted using a multiitem scale, focusing on dimensions such as functionality, usability, reliability, and visual design of the proposed CHEAP application. Respondents rated their perceptions on a 5point Likert scale (1=Strongly Disagree, 5=Strongly Agree).

Table 2. Perceived Application Quality (PAQ)

PAQ Dimensions
Functionality (comprehensive info, booking)
Usability (ease of navigation, intuitive interface)
Reliability (stable, accurate information)
Visual Design (attractive, appealing aesthetics)
Overall Perceived Application Quality

Source: Primary Data

Table 2 indicates that the overall **Perceived Application Quality (PAQ)** for the proposed CHEAP application is high, with an average mean score of 4.18. **Functionality** received the highest mean (4.35), suggesting that respondents highly value the comprehensive information and booking features. **Usability** and **reliability** also scored well, indicating that users anticipate the app to be easy to use and dependable. **Visual design**, while still positive, had a slightly lower mean, suggesting potential areas for further aesthetic refinement. These findings align with (Firdausi Fikri & Nawangsari, 2023) who emphasize that high application quality is crucial for a seamless and enjoyable user experience, which in turn influences user engagement and adoption. The strong perception of quality supports the feasibility of CHEAP in meeting user expectations.

Cultural Tourism Appeal

The **Cultural Tourism Appeal (CTA)** was evaluated based on the attractiveness of Pekalongan's cultural assets, specifically *batik* and the Ki Ageng Cempaluk religious site, as presented through a digital platform. This variable was also measured on a 5-point Likert scale.

Table 3. Cultural Tourism Appeal (CTA)

CTA Dimensions
Historical and Cultural Value (of sites/batik)
Uniqueness and Authenticity (of experience/products)
Accessibility of Information (via digital platform)
Overall Attractiveness of Cultural Offerings
Overall Cultural Tourism Appeal

Source: Primary Data

Table 3 reveals a high overall **Cultural Tourism Appeal (CTA)** with a mean of 4.31. Respondents particularly recognized the **Historical and Cultural Value** of Pekalongan's offerings (mean 4.40), reinforcing the inherent strength of its cultural assets. The perceived **Uniqueness and Authenticity** also scored highly (mean 4.25), indicating that the cultural experiences are seen as distinct. Importantly, the **Accessibility of Information** via digital

platforms (mean 4.30) scored very well, suggesting that a digital approach effectively enhances the appeal. This supports (Chen et al., 2023; Kaminski et al., 2013) assertion that strong cultural tourism appeal is crucial for attracting tourists seeking authentic experiences. The results indicate that by leveraging digital platforms, the inherent cultural appeal of Pekalongan can be effectively amplified, drawing more interest from potential visitors.

Visitor Intention to Visit/Purchase

Visitor Intention to Visit/Purchase (IVP) measures the likelihood of respondents to visit the cultural sites or purchase *batik* products after engaging with the proposed digital marketing model. This was also assessed using a 5-point Likert scale.

Table 4. Visitor Intention to Visit/Purchase (IVP)

IVP Dimensions
Intention to Visit Ki Ageng Cempaluk Site
Intention to Purchase Pekalongan Batik Products
Intention to Use CHEAP for Future Planning/Booking
Overall Visitor Intention to Visit/Purchase

Source: Primary Data

Table 4 shows a strong overall **Visitor Intention to Visit/Purchase (IVP)** with a mean of 4.13. Respondents expressed a high intention to use CHEAP for future planning and booking (mean 4.25), underscoring the potential for the app to become a primary tool for cultural tourism engagement. Intentions to visit the Ki Ageng Cempaluk site (mean 4.15) and purchase *batik* products (mean 4.00) are also robust. These findings directly address the research problem regarding sub-optimal visitor numbers and online sales, indicating that a well-executed digital marketing strategy through CHEAP can significantly convert interest into tangible actions.

Hypothesis Testing (H1 and H2)

To further validate the relationships hypothesized, inferential statistical analysis was conducted. The detailed results of the regression analysis are presented below.

Table 5. Regression Analysis Results for H1 and H2

Relationship
Perceived Application Quality -> Cultural Tourism Appeal (H1)
Cultural Tourism Appeal -> Visitor Intention to Visit/Purchase (H2)

Source: Primary Data

Table 5 presents the results of the hypothesis testing. For **H1**, the significant positive beta coefficient (0.68) and a p-value less than 0.001 indicate that **Perceived Application Quality has a significant positive impact on Cultural Tourism Appeal**. This finding supports H1, suggesting that a high-quality digital application like CHEAP can indeed enhance the perceived attractiveness of Pekalongan's cultural tourism offerings. This aligns with the theoretical understanding that digital platforms can augment the presentation and accessibility of cultural assets, thereby boosting their appeal (Wang & Pizam, 2011) . The quality of the app's functionality, usability, reliability, and design directly contributes to how appealing the cultural experiences are perceived by potential visitors.

For **H2**, the significant positive beta coefficient (0.75) and a p-value less than 0.001 indicate that **Cultural Tourism Appeal has a significant positive impact on Visitor Intention to Visit/Purchase**. This finding supports H2, confirming that when Pekalongan's cultural tourism is perceived as highly appealing, visitors are more likely to intend to visit the sites and purchase *batik* products. This result is consistent with findings that **strong cultural appeal is a key driver for visitor engagement and economic impact** (Agung Prakoso et al., 2020; Ali, 2016; Chen et al., 2023) . The direct link between appeal and intention underscores the importance of effectively showcasing cultural heritage through platforms like CHEAP to convert interest into actual visits and sales.

Discussion

The findings of this research provide clear answers to the problem formulations and research questions outlined in the introduction. The data unequivocally demonstrates that there is a substantial digital market for cultural tourism in Pekalongan, and that a well-designed mobile application like CHEAP can effectively bridge the gap between Pekalongan's rich cultural potential and the digital-savvy tourist. The high scores for Perceived Application Quality indicate that users expect and value a functional, usable, and reliable digital platform. This directly addresses the problem of ineffective traditional marketing by offering a modern, accessible alternative.

The strong positive relationship between Perceived Application Quality and Cultural Tourism Appeal (H1 supported) highlights a crucial insight: it is not merely the existence of cultural assets, but *how they are presented digitally* that significantly enhances their appeal. This extends beyond the informational focus of previous studies (Sari, 2023; Sunaria et al., 2020) by emphasizing the *quality of the digital experience* as a driver of attraction. A high-quality app can transform static information into an engaging narrative, making the cultural heritage of Pekalongan more vibrant and enticing. This finding aligns with (Tobing & Sunardi, 2023; Turrahman et al., 2023) who suggested that mobile apps can promote events and facilitate virtual tours, thereby increasing appeal.

Furthermore, the significant positive impact of Cultural Tourism Appeal on Visitor Intention to Visit/Purchase (H2 supported) confirms that enhancing the perceived attractiveness of Pekalongan's cultural offerings directly translates into a higher likelihood of visits and purchases. This is a critical link for the economic empowerment of local MSMEs and religious sites, which has been a primary objective of this research. Unlike previous studies that might have highlighted digital adoption (Hendri Hermawan Adinugraha et al., 2021) or cultural preservation (Saebani et al., 2020) in isolation, this research provides a comprehensive model where digital quality drives appeal, which in turn drives economic activity. The willingness of 80% of respondents to engage in *online* transactions (as implied by high IVP scores) further validates the inclusion of booking and purchasing features within CHEAP, moving beyond mere information provision to facilitate direct economic benefits.

In essence, this research provides compelling evidence that a well-designed, collaborative digital marketing application like CHEAP is not just a technological tool, but a strategic solution to enhance cultural tourism appeal and drive local economic growth in Pekalongan. The findings move beyond simply stating the importance of digital presence to demonstrating *how* quality digital engagement and strategic collaboration can directly influence visitor behavior and economic outcomes, offering a new perspective on integrated cultural tourism development.

CONCLUSION

This study aimed to assess the feasibility of the CHEAP ("Cempaluk Heritage App") as a collaborative digital marketing model for *batik* MSMEs and the *Ki Ageng Cempaluk* religious site, with the ultimate goal of enhancing cultural tourism appeal in Pekalongan Regency. Consistent with the expectations outlined in the Introduction, the findings from the Results and Discussion section robustly support the viability and potential impact of this innovative approach. The research evidenced a high perceived quality of the proposed application, which significantly contributes to the appeal of Pekalongan's cultural tourism offerings. This enhanced appeal, in turn, strongly correlates with increased visitor intention to visit the religious site and purchase *batik* products. These results collectively affirm that a strategically designed and implemented digital platform can effectively bridge the existing gap in cultural tourism promotion and foster meaningful economic growth for local stakeholders.

The **implications** of this research are significant and multi-faceted. Practically, the findings provide a clear directive for the development and deployment of the CHEAP application, highlighting its potential as a vital tool for local tourism agencies and MSMEs. The strong positive correlation between perceived application quality and cultural tourism appeal suggests that investing in a user-friendly, reliable, and visually appealing app is crucial for attracting digital-savvy tourists. For *batik* MSMEs, this model offers a direct digital channel to expand market reach beyond traditional methods, potentially boosting sales and contributing to local economic resilience. For the *Ki Ageng Cempaluk* religious site, the app provides a modern platform to enhance visibility, manage visitor flow, and offer enriching historical and cultural information, thereby increasing visitation. Furthermore, the emphasis on collaboration between diverse stakeholders (MSMEs and religious site managers) through a single platform provides a blueprint for integrated tourism development that leverages collective strengths to create a more compelling and comprehensive visitor experience. This integrated approach can lead to a more efficient allocation of promotional budgets and resources, moving beyond fragmented marketing efforts.

Despite these promising findings, this research acknowledges several **limitations**. The study primarily focused on assessing *feasibility* and *intentions*, relying on perceptual data rather than actual behavioral outcomes post-implementation. Future research could track the actual impact of the CHEAP application on visitor numbers and *batik* sales once fully operational. Additionally, the sample for quantitative data, while targeted, might not fully capture the diverse demographic of all potential tourists, including international visitors. Qualitative insights were limited to key local stakeholders, and broadening the scope to include more diverse perspectives from the tourism ecosystem (tour operators, local government officials) could offer richer insights.

For **suggestions and future studies**, it is recommended that the next phase involve the full-scale development and piloting of the CHEAP application, followed by rigorous impact assessment. Longitudinal studies could track changes in visitor behavior, local economic indicators, and the sustainability of the collaborative model over time. Further research could also explore the specific features within the application that drive the highest engagement and conversion rates. Investigating the role of personalized content, gamification, and social media integration within the app could provide valuable insights for continuous improvement. The success of this model in Pekalongan could also serve as a blueprint for other regions in Indonesia with rich cultural heritage but untapped digital marketing potential, offering prospects for wider application and adaptation of the collaborative digital platform concept.

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