

E-CODIGIMARK PROTOTYPE: A TOOL FOR SUPPORTING DIGITAL MARKETING OF RURAL COMMUNITIES

NANI SINTIAWATI¹, MUHAMMAD IRFAN HILMI¹,
ARIEF TUKIMAN HENDRAWIJAYA^{1,*},
MOHAMAD HADI ALI MUTAMAM²,
KARINA NINE AMALIA¹, DIDIK KURNIAWAN¹

¹Universitas Jember, Jember, Indonesia

²Universitas Pendidikan Indonesia, Bandung, Indonesia

*Corresponding Author: hendrawijayapls.fkip@unej.ac.id

Abstract

This study developed the E-Codigimark digital marketing application to support the marketing of rural community products in Puger Kulon Village, Jember, Indonesia. We used a design-based research (DBR) approach, consisting of analysis, design, development, and evaluation stages. The application demonstrated "very good" validity in ease of use, web feature functionality, responsiveness, performance, content relevance, and user data security. A limited trial with 40 community members showed that E-Codigimark was easy to use and effectively supported digital marketing. This was because the application successfully connected local products with consumers online quickly and efficiently, increasing product visibility. Additionally, it enhanced users' skills in content creation, online store management, and market expansion because of its user-friendly interface and structured guidance. As a result, E-Codigimark significantly contributed to local economic empowerment, improved product competitiveness, and strengthened digital marketing capabilities in the community.

Keywords: Communities, Digital, E-Codigimark prototype, Marketing, Rural areas.

1.Introduction

Digital marketing promotes products, services, or brands through digital technology and online platforms [1, 2]. It utilizes the internet and electronic devices like computers and smartphones to reach and engage target audiences [3, 4]. Its benefits include wider market reach, cost efficiency, precise audience targeting, measurable performance, direct customer engagement, and enhanced brand awareness [5]. This is crucial for the Puger Kulon village community, because they still rely on traditional marketing methods, limiting their income growth and economic empowerment [6].

Table 1 summarizes relevant studies on digital marketing applications, concluding that (i) digital technology transforms the economy, (ii) increases income, (iii) enhances brand awareness, and (iv) improves community product visibility. Different from other reports, this study developed the E-Codigimark digital marketing application to support rural community product marketing in Puger Kulon village, Jember, Indonesia. A design-based research (DBR) approach was used, following the stages of analysis, design, development, and evaluation. The key novelties of this research include: (i) a user-friendly application, (ii) a prototype specifically designed for rural communities, and (iii) the integration of information technology into community-based digital marketing.

Table 1. Review of previous research on digital marketing.

No.	Title	Ref.
1	Desa melek ekonomi digital dengan teknologi terintegrasi village economic information system	[7]
2	Training on "e-commerce and digital marketing designs" (E-Codigimark) to support the system economy village as a form of community empowerment in Puger Kulon village, Jember regency	[8]
3	The impact of digital marketing on rural products: A case study in Sumbang, Indonesia	[9]
4	A study on significant opportunities in digitalisation for marketing rural enterprise produces: Current context analysis	[10]
5	Barriers to digital marketing adoption at remote rural tourism destinations in Sarawak: An exploratory study	[11]
6	Readiness the owner of small medium enterprises for digital financial records in society 5.0 era	[12]
7	A study of awareness and preference of urban investors toward digital gold as an investment option and its correlation to the level of education	[13]

2.Literature Review

Figure 1 illustrates the marketplace system workflow, which involves: (i) user login, (ii) sellers listing products, (iii) customers purchasing and making payments, and (iv) automatic order processing by the marketplace. A marketplace application is a digital platform that facilitates online transactions between sellers and buyers [14, 15]. It offers a wide range of products and services from multiple sellers, accessible via computers or mobile devices [16-19]. These applications include features that streamline transactions, such as product search, category filters, reviews, and ratings [20, 21].

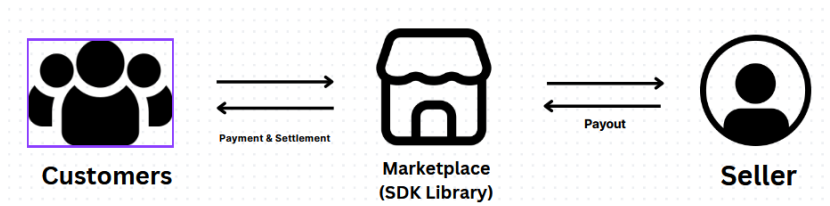


Fig. 1. Marketplace application mechanism.

3. Method

We employed a DBR approach, following four stages: analysis, design, development, and evaluation. The analysis stage identified challenges in product marketing within the Puger Kulon village community, Jember, Indonesia. The design stage focused on developing a web-based application. In the development and evaluation stages, validation was conducted with experts in economics, technology, and education. A limited trial involving 40 community members was carried out using the digital assessment application to assess its usability and effectiveness.

4. Results and Discussion

The E-Codigimark digital marketing application was developed following an analysis phase that identified several key findings. We examined community challenges and mapped out potential digital marketing solutions [22, 23]. The analysis revealed several issues, supporting current issues in low adoption of digital technology, reliance on offline sales methods [24], limited digital market access for local products [25], lack of digital marketing knowledge [26], the absence of a unified platform for economic actors, and unintegrated product marketing strategies [27]. To address these challenges, we explored solution strategies through discussions and collaborated with web developers to design a prototype tailored to the needs of the community, ensuring effective digital marketing support [28, 29].

Figure 2 illustrates the web application design process. Users begin by accessing <https://ecodigimark.com/>. The platform provided a login menu for registered users and a registration option for new users. Registration was categorized into two user types: sellers, who must provide store details and list products for sale on the platform, and buyers, who can browse products and make purchases immediately after registration.

Figure 3 showcases the E-Codigimark application interface, including its homepage menu, providing an overview of the platform. The homepage featured a registration menu for users and partners, granting access to information about MSMEs, community partners, business profiles, and purchasing procedures after registration. Additionally, the application highlights seller activities and showcases businesses within the partner network [30].

We also did a validation test, confirmed by experts in economics, technology, and education. The E-Codigimark application received a "very good" validity rating across several key aspects. Experts highlighted its user-friendly interface, making it accessible to users [31], and deemed the application highly functional and well-suited to the needs of the village market [32]. It demonstrated strong responsiveness, performing well across various devices, including smartphones and

computers [33], while its performance and reliability were rated as efficient. The content and features were found to be highly relevant to users, user data security was effectively implemented, and the readability of the information ensured clarity and ease of understanding [20, 34].

The E-Codigimark application was also tested on a limited group of 40 users from the Puger Kulon village community in Jember, Indonesia. The assessment focused on ease of use, content suitability, media quality, and application functionality [34]. Trial results confirmed the application's validity and reliability, with Pearson correlation values ranging from 0.512 to 0.780, all exceeding the *r*-table value of 0.349, indicating a strong positive correlation among items. The application also demonstrated high reliability, with a Cronbach's alpha of 0.931, reflecting very strong internal consistency across the evaluation instruments. The findings confirmed that E-Codigimark is user-friendly and effectively supports digital marketing for community products. Because the application seamlessly connects local products with consumers online quickly and efficiently, it enhances product visibility, helps users create engaging content, improves online store management, and expands market reach [29]. Finally, this study adds new information regarding economic education as reported elsewhere [35-40].

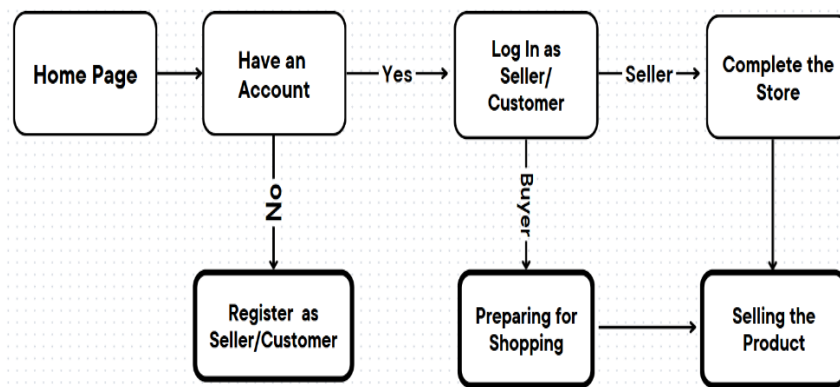


Fig. 2. Flowchart application for E-Codigimark marketplace.

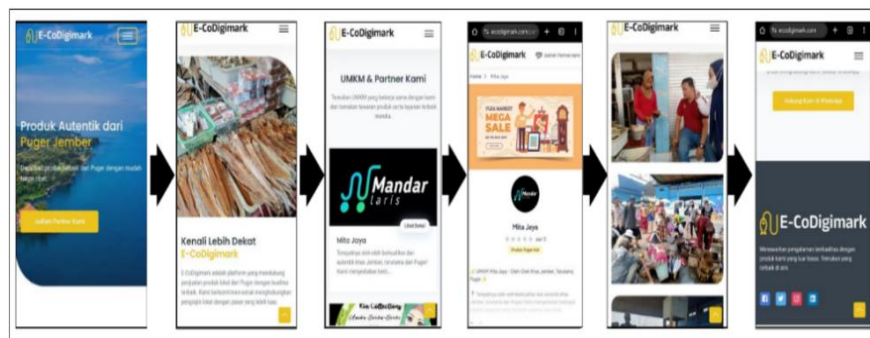


Fig. 3. Application for E-Codigimark marketplace.

5. Conclusions

This study successfully developed the E-Codigimark application to support the digital marketing of community products. The application was proven to have very good validity in terms of ease of use, functionality, responsiveness, performance, content relevance, and data security. A limited trial showed that the application effectively connected local products with consumers online, improving product visibility and enhancing skills in managing online stores and creating content.

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