

Data-Driven Development of an E-Catalog for Youth Entrepreneurship Learning and Market Access

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Abstract

This study aims to develop and evaluate the GEJUR electronic catalog as a continuation of a digital entrepreneurship learning platform that supports market access for young entrepreneurs in East Nusa Tenggara, Indonesia. The research contributes a user-data-informed approach to extending entrepreneurship education into a practical digital marketplace by integrating local cultural identity, product promotion, and business support within a single web-based platform. A descriptive quantitative design combined with information system development was employed, consisting of requirement analysis, platform design and implementation, and user evaluation. The platform was developed using modern web technologies and incorporates seller and buyer registration, product management, tutorial materials, local cultural design elements, and communication-based transaction support. The study involved forty-one young entrepreneurs selected through purposive sampling. Data were collected using questionnaires that measured usability, user experience, digital literacy, and perceived business impact, supported by qualitative user feedback. The research presents a methodology framework, system architecture, database design, user interface illustrations, descriptive respondent profiles, reliability and validity assessment, usability evaluation, and thematic analysis. The findings indicate that the platform achieved an average usability score of 64.8, demonstrating that it is functional and approaching an acceptable level of usability while highlighting the need for improvements in user onboarding, interface consistency, navigation, and transaction guidance. Participants also perceived the platform as beneficial for increasing product visibility, expanding market access, and promoting local cultural products. These findings demonstrate the potential of integrating digital learning and electronic commerce within a single ecosystem to strengthen youth entrepreneurship and regional economic development while providing a foundation for future enhancements, including secure digital payment integration, logistics support, and broader implementation.

Keywords: Data Driven Development, E-Catalog, System Usability Scale, Youthpreneur, User Experience

1. Introduction

Youth entrepreneurship plays a role in driving local economic development in Indonesia. East Nusa Tenggara, which still faces significant geographical disparities, requires capacity-building for its youth so that limitations in access to education, market information, and economic opportunities, caused by poverty and unemployment, as well as a lack of modern digital infrastructure, can be effectively and gradually addressed. Strengthening youth capacity is viewed as one solution to these challenges [1], [2]. The demographic dividend also supports youth capacity-building programs in entrepreneurship, so innovations in these programs need to be carefully designed. Young people's entrepreneurial skills need to be honed through learning and applied through market access. Smartphone literacy will support the success of programs that provide access to learning, theoretical and practical mentoring, and market access channels tailored to local conditions.

Digital access among micro, small, and medium-sized enterprises (MSMEs) supports economic growth. This requires consideration of several other factors, including interactions among technological, organizational, environmental, and entrepreneurial factors. Adopting technology by identifying opportunities within an organization or its environment can drive meaningful value growth [3]. Individual, organizational, and technological factors significantly influence e-

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commerce, thereby improving MSME performance in Malang City [4]. Furthermore, ongoing training and competency support also help MSME owners utilize digital access more effectively [5]. However, the adoption of digital technology is linked to user readiness, business needs, local support, and entrepreneurs' ability to identify digital opportunities. The launch of the GEJUR initiative in its first year was a response to this issue. GEJUR developed and evaluated a web-based, environmentally friendly learning management system (LMS) for the young entrepreneurial community in East Nusa Tenggara. GEJUR was an interactive digital learning platform that included entrepreneurship learning modules, quizzes, educational materials, elements of local culture, and e-monitoring. GEJUR's first study involved 33 young participants as respondents during the evaluation phase. GEJUR's first year showed poor results, with an average SUS score of 48.9, below the benchmark of 68, regarding the LMS's effectiveness, even though the LMS functioned properly. This was evidenced by the respondents' ability to complete key tasks, such as logging in to their accounts, accessing courses, and taking quizzes. Improvements related to timing, appearance, and system feedback are still needed; however, cultural integration was already perceived positively [6]. Thus, the previous GEJUR study was not declared the final platform because it had undergone significant evaluation and required further development.

GEJUR subsequently expanded its scope from learning support to market access support by developing and implementing the GEJUR catalog. This development was also evaluated to understand user perspectives on the platform, enabling it to be developed and used more effectively. This evaluation involved 41 young MSME respondents, 33 of whom were the same participants from the first-year GEJUR LMS evaluation. The other 8 respondents were added because the number of MSME users increased during the implementation of the GEJUR catalog. This addition necessitates a careful comparison between the first-year LMS scores and the second-year e-catalog scores, as the platform's functions, task scenarios, and usability instruments evaluated were not identical. Differences in evaluation scores are not presented directly through statistical analysis but rather descriptively to illustrate a trend toward more positive usage, thereby avoiding the perception that the platform was redesigned. Young entrepreneurs' products are expected to sell better in the market through the development of the e-catalog after they have enhanced their knowledge via the GEJUR LMS. Thus, this study constitutes a follow-up development project for the GEJUR learning ecosystem, created to drive entrepreneurship education toward product visibility, store management, and buyer interaction.

This study uses the term "user-data-driven development" to refer to the use of empirical data as the basis for system identification, platform feature design, and usability evaluation of the GEJUR e-catalog. This process was verified using user data collected from the first-year GEJUR LMS study and the second-year e-catalog evaluation, and the development process did not rely on automated behavioral analysis, recommendation algorithms, or transaction log-based optimization. The first-year study provided evidence regarding young entrepreneurs' learning needs, usability barriers, and the importance of cultural relevance. At the same time, the second-year e-catalog data offered insights through requirements analysis, questionnaire responses, platform observations, and user evaluations. These data informed the design of key features such as seller and buyer registration, product upload, product management, shop information, tutorial videos, NTT cultural interface, and WhatsApp-based transaction flow. Therefore, this study is positioned as a requirement-driven and user-data-informed information system development study that extends GEJUR from LMS-based capacity building into e-catalog-based market access for youth MSMEs in NTT.

2. Literature Review

GEJUR Catalog is a digital platform that showcases selected youthpreneur products from East Nusa Tenggara. The current platform features the tagline "From East Nusa Tenggara to Indonesia" ("Dari NTT, untuk Indonesia") and introduces the GEJUR Catalog as a space for featured youthpreneur products, facilitating easier shopping and contributing to regional economic growth. It also includes learning materials on business feasibility and legal aspects, including guidance on the importance of having a Business Registration Number (NIB). The platform provides tutorial videos for public users, buyers, sellers, and youthpreneur partners. It also presents not only product categories such as coffee, cacao, honey, cashew, woven crafts, and local food, but also featured products such as moringa leaf herbal tea, candlenut oil, Javanese turmeric products, rice, Komodo painting, local herbal products, and other local community services. These features show that GEJUR Catalog is built not only as a product listing page, but also as a guided promotion for the local community.

The requirement analysis conducted before the second year of development identified several functional needs. Users need to register as sellers, buyers, or both. Sellers need to upload the products, manage product data through create, read, update, and delete functions, and provide shop information such as location, seller identity, product category, and price. Buyers need to explore products, understand product information, and continue the transaction process through a communication channel they are familiar with. Currently, the GEJUR catalog does not offer online payment methods, such as QR code payments, bank transfers, or e-wallet integration. This platform facilitates communication between buyers and sellers via WhatsApp, as well as cash payments upon delivery. The transaction model will be developed in phases to reduce barriers to early adoption and avoid platform administrative fees being deducted from transaction proceeds. The next phase of research plans to integrate a payment gateway service [7]. This plan aligns with Bank Indonesia's national digital payment standardization, which has expanded the scope of QRIS for payments via QR codes [7]–[9].

Cultural adaptation is a key component of this research. The previous year's GEJUR evaluation showed that elements of NTT culture are relevant to this system's context [6]. Their implementation is integrated into the visual identity and woven motif design. However, cultural identity and relevance must be supported by reliable system performance, such as clear navigation and easily accessible interaction flows [10]–[12]. Design patterns, logos, avatars, product narratives, and traditional visual symbols, which are integrated into processes ranging from uploading photos and managing stores and products to payment transactions, need to be monitored regularly to improve their quality.

This study focuses on needs data and user data as the basis for developing an e-catalog in East Nusa Tenggara. The study uses needs data, platform development evidence, and evaluation data to examine how GEJUR can evolve from an LMS into an e-catalog that effectively supports market access. Furthermore, this study translates user needs into e-catalog features that support the roles of both sellers and buyers on a single platform, incorporates relevant regional cultural elements, and evaluates the usability of the implemented GEJUR catalog. By linking lessons from the previous LMS with practical improvements in product visibility and buyer interactions, this research contributes to the fields of applied data science and information systems development by demonstrating how digital platforms can support youth entrepreneurship in the context of regional development. This research is limited to a focused and in-depth study of e-catalog development, excluding technical aspects such as hardware, networks and communication systems, system security, databases, and other key components of information systems.

This study is expected to make three major contributions: to serve as an empirical follow-up to the previous GEJUR LMS study by examining the expansion of entrepreneurship education into digital market access; to develop a needs-based e-catalog model that takes into account user roles, product management, tutorial content reflecting local identity, and the readiness for installment payments; and to provide additional evidence regarding technology adoption—including usability, cultural relevance, and ease of transactions—among young entrepreneurs in East Nusa Tenggara. Thus, this study utilizes the GEJUR e-catalog as a research-based practical initiative to strengthen the capacity and capabilities of young entrepreneurs, increase the visibility of local products, and enhance their participation in the regional economy of East Nusa Tenggara. The alignment of research objectives, research questions, methods and the expected results of this study is described in [table 1](#).

Table 1. Alignment of Objectives, Research Questions, Methods, and Expected Results

Objectives	Research Questions (RQs)	Methods / Instruments	Expected Results
O1. To identify user requirements and digital readiness for GEJUR Catalog development.	RQ1: What are the user needs, MSME characteristics, digital access conditions, and prior e-catalog experience of youth entrepreneurs in East Nusa Tenggara?	Questionnaire Variables: respondent profile, business sector, internet access, device use, previous e-catalog experience, digital literacy, and MSME needs. Analysis: descriptive statistics and requirement mapping.	Clear user requirement data for GEJUR Catalog development. Identification of seller and buyer needs, including registration, product upload, product management, shop information, tutorial videos, and simple transaction support.

O2. To develop the GEJUR Catalog as the continuation of the GEJUR LMS from entrepreneurship learning to MSME market access.	RQ2: How can GEJUR be extended from a learning platform into an e-catalog that supports youth MSME product visibility and buyer interaction?	System development based on LMS continuation and e-catalog requirements. Feature review: seller and buyer registration, product catalog, product category, CRUD product management, shop profile, WhatsApp based transaction, and cultural design elements. Platform observation through GEJUR Catalog deployment.	A functional e-catalog for youth MSME products in East Nusa Tenggara. The platform connects entrepreneurship learning from the previous LMS study with product promotion and market access. The previous GEJUR study already planned the second year development as an e-catalog for youth entrepreneurial products.
O3. To evaluate usability, user experience, and perceived MSME business impact of GEJUR Catalog.	RQ3: How do users evaluate the usability, user experience, and expected business benefits of GEJUR Catalog?	Questionnaire Instruments: adapted SUS usability items, UX evaluation items, digital literacy items, and expected business impact items. Analysis: mean score, item ranking, usability interpretation, and descriptive comparison.	Usability and UX evaluation of GEJUR Catalog. Identification of strengths and improvement areas, such as ease of use, navigation, product information clarity, search, product category, visual design, and transaction flow. Evidence of expected MSME benefits, including wider product visibility, stronger customer trust, and broader market reach. The deployed catalog already presents tutorial videos, MSME product categories, featured products, and platform indicators for youth MSMEs in East Nusa Tenggara.

3. Methodology

This study applied an information system development approach to develop and evaluate the GEJUR Catalog, an e-catalog platform for youthpreneurs in East Nusa Tenggara. The study was designed as a continuation of the previous GEJUR research. In the first year, GEJUR was developed as a web-based Learning Management System to support learning in youth entrepreneurship, while the second year focused on developing an e-catalog for youth entrepreneurial products. The previous study stated that the e-catalog was expected to make youth products more marketable after users improved their skills through the GEJUR LMS. The detailed research methodology for this study is explained in figure 1.

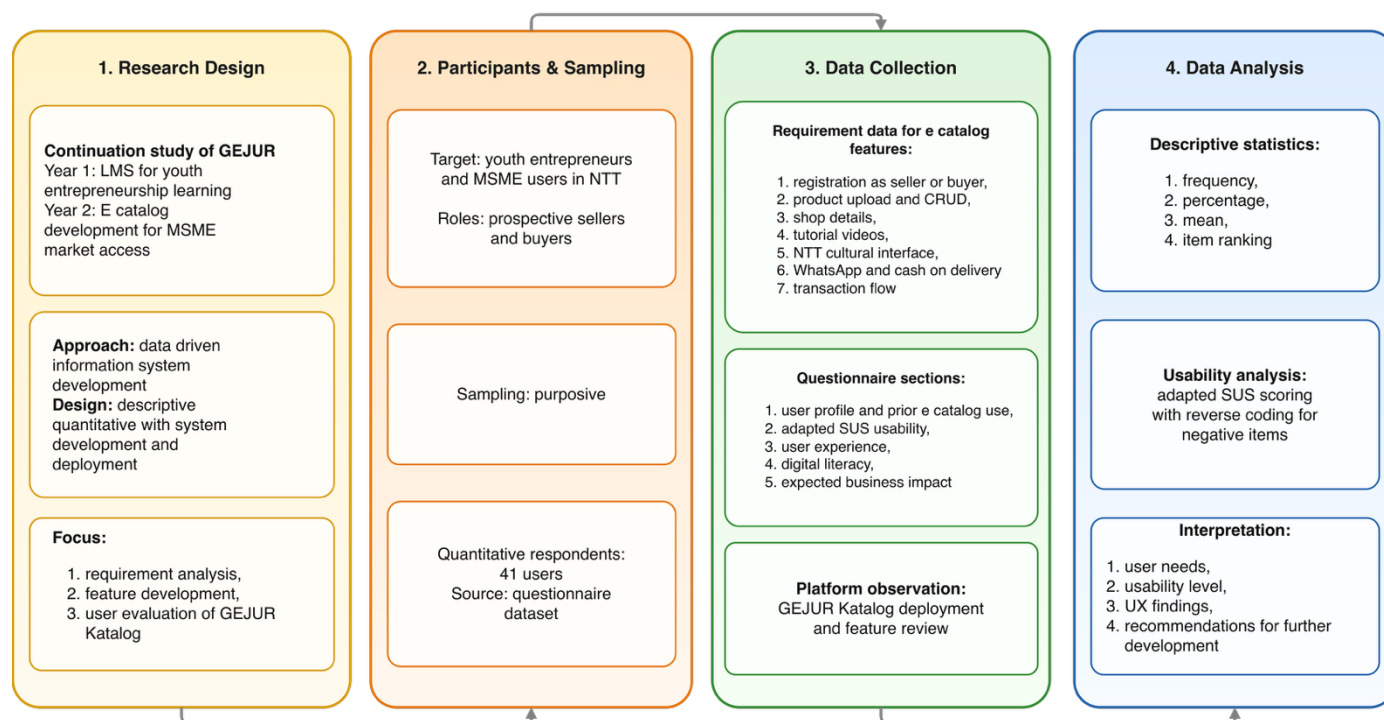


Figure 1. Research Methodology

3.1. Research Design

The research design followed a descriptive quantitative approach combined with system development and deployment [13], [14]. The study not only measured user perceptions after system use but also used requirements data to develop the e-catalog features. Therefore, the methodology covered three main activities: requirement analysis, platform development, and user evaluation.

The system development focused on extending GEJUR from a learning platform into a market access platform. This phase features the GEJUR catalog, which includes product visibility for MSMEs, interactions between sellers and buyers, and basic transactional communication. Local identity is preserved within the platform by integrating visual design elements and cultural representations into product categories. The digital space offered by the GEJUR catalog provides business information regarding the legal status of MSMEs, such as the Business Identification Number (NIB) and financial viability.

User feedback on this digital market access tool is descriptive. This data is used to understand the platform's role in supporting buying and selling activities, to gather responses on the integration of cultural design, and to identify the challenges faced by the platform. Furthermore, user experiences, perceived benefits, challenges, and areas for improvement in the GEJUR catalog should be further analyzed as part of the evaluation. Thus, this study also includes a qualitative analysis of platform feedback to examine it in greater depth.

Responses to open-ended questionnaire items, along with user comments from platform testing and observations during implementation, constituted the qualitative data collected in this study [15], [16], [17]. This data was categorized into several areas: the registration process, the buyer's transaction flow, the product upload experience, cultural relevance, perceptions of business utility, product information, ease of use, and recommendations for future development. These data categories relate to the research objectives: identifying user needs, developing the GEJUR catalog as a continuation of the GEJUR LMS, and evaluating its usefulness.

This study used NVivo as a structured thematic analysis procedure to analyze qualitative data [18], [19], [20]. User comments and observation notes were first organized into verbatim transcripts to preserve the authenticity of the data and the contextual meaning conveyed by the participants. The verbatim data were then imported into NVivo and read repeatedly to gain a deeper understanding. Next, meaningful text units were coded in NVivo using initial descriptive codes that captured the participants' statements, including "needs clearer instructions," "useful product uploads," "familiar with WhatsApp transactions," "attractive local design," and "payment integration is needed." A working codebook was created within the NVivo project to document each code, its definition, inclusion and exclusion criteria, and representative quotes. Interrelated codes were then compared using NVivo's coding queries and code reports features, grouped into provisional subthemes, and reviewed against the entire verbatim data set. These subthemes were subsequently combined into broader themes: ease of use, salesperson orientation processes, buyer interactions, cultural relevance, business benefits, digital literacy, and future development needs. The final themes were then named, supported by representative verbatim quotes, and interpreted in light of findings on SUS adaptation, user experience, digital literacy, and expected business impacts [21], [22], [23].

Initial coding of the verbatim data was performed independently by one researcher, followed by a joint discussion. Reviewers assessed the clarity of code definitions, the alignment between verbatim quotes and the recommended themes, and the consistency of theme boundaries. Discussion, re-examination of the original verbatim responses, and revisions to the NVivo codebook resolved disagreements in data coding. Because the dataset was not independently double-coded in full by two coders, a formal inter-rater reliability coefficient, such as Cohen's kappa, was not calculated. Coding rigor was instead strengthened through preservation of verbatim data, repeated reading, a documented NVivo codebook, software-based coding records and audit trails, retention of representative participant quotations, research-team review, and comparison of qualitative interpretations with the quantitative findings. Nevertheless, the absence of full independent double coding and a formal inter-rater reliability statistic should be considered when interpreting the qualitative results.

The quality of the multi-construct questionnaire was also assessed through reliability and convergent-validity testing. Internal consistency was evaluated using Cronbach's Alpha and Composite Reliability, while convergent validity was evaluated using the Average Variance Extracted (AVE). Because this is an exploratory study, a Cronbach's Alpha value

between 0.60 and 0.70 was considered acceptable when the corresponding Composite Reliability and AVE values met the recommended criteria. Composite Reliability was used as a complementary indicator of construct reliability. A construct was considered to demonstrate convergent validity when its AVE value > 0.50 , indicating that the construct explained more than half of the variance in its indicators. These assessments were applied separately to the adapted SUS, user experience, digital literacy, and expected business impact constructs rather than treating all questionnaire items as a single scale.

3.2. Participants and Sampling

The target participants were youth entrepreneurs in East Nusa Tenggara who were potential users of the GEJUR Catalog. Young entrepreneurs play two main roles: potential sellers and potential buyers. Sellers use the platform to register their stores, upload products, provide product information, and communicate with potential buyers. Meanwhile, buyers use the platform to search for and view product details and proceed with the ordering process through the available communication channels.

This study used purposive sampling [24], [25]. The criteria used were relevance to MSME activities, such as youth entrepreneurship, and the potential for using digital catalog services. The sample consisted of 41 respondents who completed the questionnaire in the attached dataset for the platform evaluation process. The limitation of the sample—which is concentrated in a single region, namely East Nusa Tenggara, and includes users from various villages, business sectors, levels of digital literacy, infrastructure conditions, and prior experience in digital commerce—means that the research results regarding the platform’s usability and benefits cannot be interpreted broadly. Instead, they should be viewed only as preliminary evidence from an initial user group and not generalized to all young entrepreneurs in the province.

With a sample size of 41 respondents, the evaluation data analysis is more suitable for exploratory and descriptive assessment as an initial step. However, it is possible that this sample is not yet capable of detecting small differences among respondent groups or producing stable estimates for the diverse population of young entrepreneurs throughout the East Nusa Tenggara region. This study did not employ formal a priori power analysis because the evaluation was designed solely as a preliminary feasibility study for the limited implementation of an electronic catalog. Therefore, adjustments to the average SUS scores, as well as their reliability and validity coefficients, must be interpreted with caution. These figures represent only the sample of this study and do not constitute accurate regional estimates. Appropriate studies and geographically diverse sample must support any generalizations.

3.3. Data Collection

The research data was collected from three sources: first, requirements data used to identify the primary functional requirements of the GEJUR catalog. These requirements include user registration as both sellers and buyers, product uploads, product management with several functions—such as create, view, update, and delete—as well as filling out store profile information, tutorial videos, a user interface tailored to the culture of East Nusa Tenggara, transaction guides via WhatsApp, and guidance on cash-on-delivery payments.

Second, the questionnaire was systematically adapted for data collection to evaluate the platform, covering user characteristics, usability, user experience, digital literacy, and expected business impact [26]–[28]. The questionnaire covered several topics, including respondent profiles, business sectors, internet access, prior experience with e-catalogs, and items related to the adapted SUS usability scale, UX evaluation, digital literacy, and the benefits experienced by MSMEs [6], [29], [30]. Data collection using the questionnaire was conducted with participants who voluntarily completed it after the study’s objectives and the confidentiality of their responses were explained, ensuring the questionnaire was unbiased and focused on the platform’s assessment.

Third, monitoring and review of the GEJUR platform during the development process were conducted as part of a phased evaluation. The platform includes tutorial sections for general users, sellers, buyers, and MSME partners. It also features product categories such as coffee, cocoa, honey, cashews, woven crafts, and local foods, along with featured MSME products and platform metrics.

3.4. Data Analysis

This study continued the data analysis using descriptive statistics, such as frequency and percentage, to describe the respondents' profiles, internet access, business characteristics, device usage, and e-catalog experience. The evaluation of usability, user experience, digital literacy, and the impact on business was conducted using average scores and item ratings.

A modified SUS approach was used to analyze the platform's usability [6], [27], [31]. Positive and negative statements in the usability evaluation were used as intended, and negative items were reverse-coded before interpretation [32], [33]. Usability analysis was conducted to assess the ease of use of the GEJUR catalog, user support, feature integration, interface consistency, and user confidence when using the system [32], [34].

Furthermore, the interpretation results synthesize the relationship between user needs, usability levels, UX findings, and future system improvements. This interpretation also considers the development stages of the GEJUR catalog, including an early-adopter model with payment methods via WhatsApp and cash on delivery. This research is expected to serve as a foundation for platform development—such as the integration of payment gateways via QR codes, bank transfers, or digital wallets—as well as for its broader implementation among youth-led MSMEs in East Nusa Tenggara. The questionnaire data were analyzed using descriptive statistics and usability scoring. Descriptive statistics were used to summarize respondent characteristics, questionnaire responses, and the evaluation of the GEJUR Catalog. The analysis included frequency, percentage, mean score, and item ranking. The percentage of responses in each category was calculated using Equation (1):

$$P = f/N \times 100\% \quad (1)$$

(P) represents the percentage of responses, (f) is the frequency of responses in a particular category, and (N) is the total number of respondents. For questionnaire items measured using a Likert scale, the mean score of each item was calculated using Equation (2):

$$\bar{X} = \left(\sum_{i=1}^N X_i \right) / N \quad (2)$$

($\bar{X}$) represents the mean score, (X_i) is the score given by respondent (i), and (N) is the total number of respondents. The resulting mean scores were used to compare and rank questionnaire items according to user responses.

System usability was evaluated using an adapted System Usability Scale (SUS). The SUS instrument contains positive and negative statements that require different score transformations. For positively worded items, the contribution score was calculated using Equation (3):

$$C_i = X_i - 1 \quad (3)$$

(C_i) represents the contribution score of item (i), and (X_i) represents the original Likert response. For negatively worded items, reverse coding was applied using Equation (4):

$$C_i = 5 - X_i \quad (4)$$

After all positive and negative items were transformed, the SUS score for each respondent was calculated using Equation (5):

$$SUS = 2.5 \sum_{i=1}^{10} C_i \quad (5)$$

The multiplication factor of 2.5 converts the total contribution score into a standardized SUS score ranging from 0 to 100. The overall usability score was then calculated by averaging the SUS scores of all respondents using Equation (6):

$$\overline{(SUS)} = \left(\sum_{j=1}^N SUS_j \right) / N \quad (6)$$

($\overline{(SUS)}$) represents the overall mean SUS score, (SUS_j) is the SUS score obtained from respondent (j), and (N) is the total number of respondents. The descriptive results and SUS scores were then interpreted together with user feedback

to identify user needs, usability conditions, interface issues, and recommendations for further development of the GEJUR Catalog.

3.5. Expected Outcomes

This study resulted in the development and evaluation of the GEJUR catalog as a web-based learning and shopping platform with comprehensive and relevant features. The GEJUR catalog is expected to support the development of young entrepreneurs' competencies and their ability to access the MSME market in East Nusa Tenggara on a broader scale. The evaluation of the GEJUR catalog is expected to identify the system's strengths and weaknesses. Furthermore, this study is expected to demonstrate that the platform's relevance to users is linked to the integration of local cultural identity. Overall, this research is expected to serve as the foundation for GEJUR's future development, including increased product visibility, expanded market reach, improved onboarding processes, optimized transaction workflows, and the integration of a payment gateway.

4. Results and Discussion

The results and discussion section presents the development and evaluation of GEJUR Catalog as the second year continuation of the GEJUR research. The previous study developed GEJUR as a web-based LMS to support youth entrepreneurship learning in East Nusa Tenggara. In that study, the second year was already directed toward the development of an e-catalogue for youthpreneur products, so that products created by youth entrepreneurs could become more marketable after they improved their skills through the LMS. Therefore, the current results focus on how the LMS based capacity building process was extended into GEJUR Catalog as a digital market access platform for youth MSMEs.

4.1. Respondent Profiles and Digital Readiness

Table 2 showed that in terms of age, respondents were dominated by the 26–30 age group and those over 30, with 15 respondents (36.6%) each. The 21–25 age group comprised 10 respondents (24.4%), while the 17–21 age group comprised only one respondent (2.4%). This composition indicates that most of the study respondents were in a relatively mature, productive age phase in carrying out economic activities. In the context of youth entrepreneurship research, the dominance of the 26-and-over age group may reflect that respondents have stronger social, economic, and decision-making experience in managing businesses compared to younger age groups.

Table 2. Respondent Characteristics

Characteristic	Category	n (%)
Age	17–21 years	1 (2.4)
	21–25 years	10 (24.4)
	26–30 years	15 (36.6)
	>30 years	15 (36.6)
Gender	Male	35 (85.4)
	Female	6 (14.6)
Business Sector	Food and Beverage	29 (70.7)
	Tourism	2 (4.9)
	Fishery	6 (14.6)
	Agriculture	4 (9.8)
Length of Business	<1 year	22 (53.7)
	1–3 years	15 (36.6)
	>3 years	4 (9.8)
Education Level	Primary School	3 (7.3)
	Junior High School	1 (2.4)
	Senior High School	17 (41.5)
	University	20 (48.8)
Occupation	Housewife	6 (14.6)
	Private Employee	3 (7.3)

	Government Employee	3 (7.3)
	Entrepreneur/MSME	28 (68.3)
	Self-Employed/Student	1 (2.4)
Internet Access	Paid Data Quota	35 (85.4)
	Private Wi-Fi	6 (14.6)
Internet Connection	Smooth Connection	34 (82.9)
	Unstable Connection	7 (17.1)

Table 2 summarizes the demographic, business, and technology access characteristics of the 41 respondents. In terms of age, the largest groups were respondents aged 26–30 years and those aged above 30 years, with 15 respondents each (36.6%). They were followed by respondents aged 21–25 years (10 respondents, 24.4%) and 17–21 years (1 respondent, 2.4%). Most respondents were male (35 respondents, 85.4%), while 6 respondents (14.6%) were female.

The food and beverage sector was the dominant business sector, represented by 29 respondents (70.7%). The remaining respondents operated in fisheries (6 respondents, 14.6%), agriculture (4 respondents, 9.8%), and tourism (2 respondents, 4.9%). More than half of the respondents had operated their businesses for less than one year (22 respondents, 53.7%), while 15 respondents (36.6%) had been in business for one to three years and 4 respondents (9.8%) for more than three years. These results indicate that many participants were still in the early stages of business development and could benefit from digital support for product promotion, business identity, and market access.

Regarding education, 20 respondents (48.8%) were university graduates and 17 respondents (41.5%) had completed senior high school. The remaining respondents had completed primary school (3 respondents, 7.3%) or junior high school (1 respondent, 2.4%). Most participants identified their occupation as entrepreneur or MSME actor (28 respondents, 68.3%). Other occupations included housewife (6 respondents, 14.6%), private employee (3 respondents, 7.3%), government employee (3 respondents, 7.3%), and self-employed or student (1 respondent, 2.4%). This occupational profile confirms that the respondents were generally consistent with the target users of GEJUR Katalog.

Regarding digital access, 35 respondents (85.4%) accessed the internet using paid mobile data, while 6 respondents (14.6%) used private Wi-Fi. Most respondents reported a smooth internet connection (34 respondents, 82.9%), whereas 7 respondents (17.1%) experienced unstable connectivity. Overall, the findings in **table 2** show that most respondents had sufficient internet access to use a web-based e-catalog, although the platform should still consider mobile data consumption and unstable connections among a smaller group of users. The following **table 3** explained the descriptive analysis for each demographic profile of the respondents:

Table 3. Descriptive Analysis

Variable	N Valid	Mean	Median	Std. Deviation	Min.	Max.	Skewness	Kurtosis
Age	41	2.61	3.00	1.321	1	4	-0.250	-1.738
Gender	41	1.15	1.00	0.358	1	2	2.078	2.435
Business Sector	41	1.63	1.00	1.067	1	4	1.320	0.148
Length of Business	41	1.83	1.00	0.946	1	3	0.358	-1.840
Education	41	2.93	3.00	1.104	1	4	-0.201	-1.668
Occupation	41	3.37	4.00	1.157	1	5	-1.286	0.172
Internet Devices	41	1.15	1.00	0.358	1	2	2.078	2.435
Internet Connection	41	1.17	1.00	0.381	1	2	1.817	1.367

The age variable data show that many respondents are between 26 and 30 years old or older. The age distribution is relatively symmetrical, with a skewness of -0.250. Respondents tend to be older, as indicated by a mean of 2.61, a standard deviation of 1.321, and a median of 3.00. The minimum value is 1, and the maximum value is 4. The respondents were predominantly female. The distribution was clearly disproportionate. Female respondents outnumbered male respondents in this study. With a median of 1.00, a mean of 1.15, and a standard deviation of 0.358, the skewness coefficient was 2.078.

The distribution of business sectors recorded on the platform is quite diverse. A standard deviation of 1.067, a mean of 1.63, and a median of 1.00 indicate a skew toward the food and beverage sector, with a skewness value of 1.320. The average business age of the respondents was 1.83, the median was 1.00, and the standard deviation was 0.946, indicating that most respondents were in the early stages of their businesses. This platform is relevant because they need extensive knowledge to develop and expand their business opportunities. Graduates from high school through college are expected to be able to make the most of digital technology effectively. Education plays a significant role in digital literacy and in understanding information related to training and new technologies. It is reflected in a median score of 3.00, a mean of 2.93, and a standard deviation of 1.104.

In addition to education, the results showed that most respondents fell into the self-employment or MSME category, with a mean of 3.37, a median of 4.00, and a standard deviation of 1.157. Employment data were also analyzed to identify job types and their relevance to the target sample of this study. The skewness value also supports this finding, with a value of -1.286 indicating a relatively high concentration of occupations in the entrepreneurship and MSME categories. Thus, this study has an appropriate sample target. In addition, another variable to consider is the internet device respondents use. This study was conducted on a platform that requires an internet connection, so the data needed to be collected properly. The results show a mean of 1.15, a median of 1.00, and a standard deviation of 0.358. Most respondents used the same type of internet access—either a paid data plan or phone credit. Thus, the target location and sample for this study were highly appropriate because the platform and users mutually met each other's needs—namely, by connecting to the internet—allowing the e-catalog to be accessed effectively.

Finally, this platform requires a stable, high-speed internet connection, so the data needs to be analyzed to ensure uninterrupted access. An average score of 1.17, a median of 1.00, and a standard deviation of 0.381 indicate that respondents have a good and stable internet connection. Although the distribution is skewed, as indicated by a skewness value of 1.817, only a few respondents experienced internet connection issues.

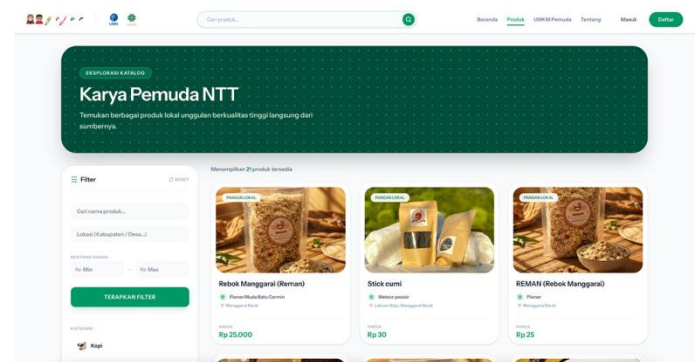
4.2. Prototype Development and System Design

The development of GEJUR went through several stages, starting with mockups and user interface designs, which were later developed into interactive prototypes. Figure 2 described the development of web-based Gejur Catalog User Interface and Features. Adobe Illustrator facilitated the creation of mockups and designs, including the arrangement of layout elements, cultural motifs, logo editing, and other visual components consistent with East Nusa Tenggara's identity. Next, Figma played a role in the visual design that was developed into an interactive prototype. This prototype provided an overview of the system flow and user scenarios before the platform was fully developed.

This prototype will eventually be accessible to general users, sellers, buyers, and system administrators. General users can access, search, and view the product catalog and tutorial content. Buyers can do the same, with the added ability to register an account and make purchases. Sellers can manage the stores that will be displayed. Administrators manage all content and user data. Furthermore, the GEJUR catalog uses Tailwind CSS to ensure interface consistency, React and JavaScript for interactive front-end development, and MySQL to store structured data, including user information, store profiles, categories, product details, and transaction records. This phase transformed the prototype into a functional e-catalog for the youth SME market.



(a)



(b)

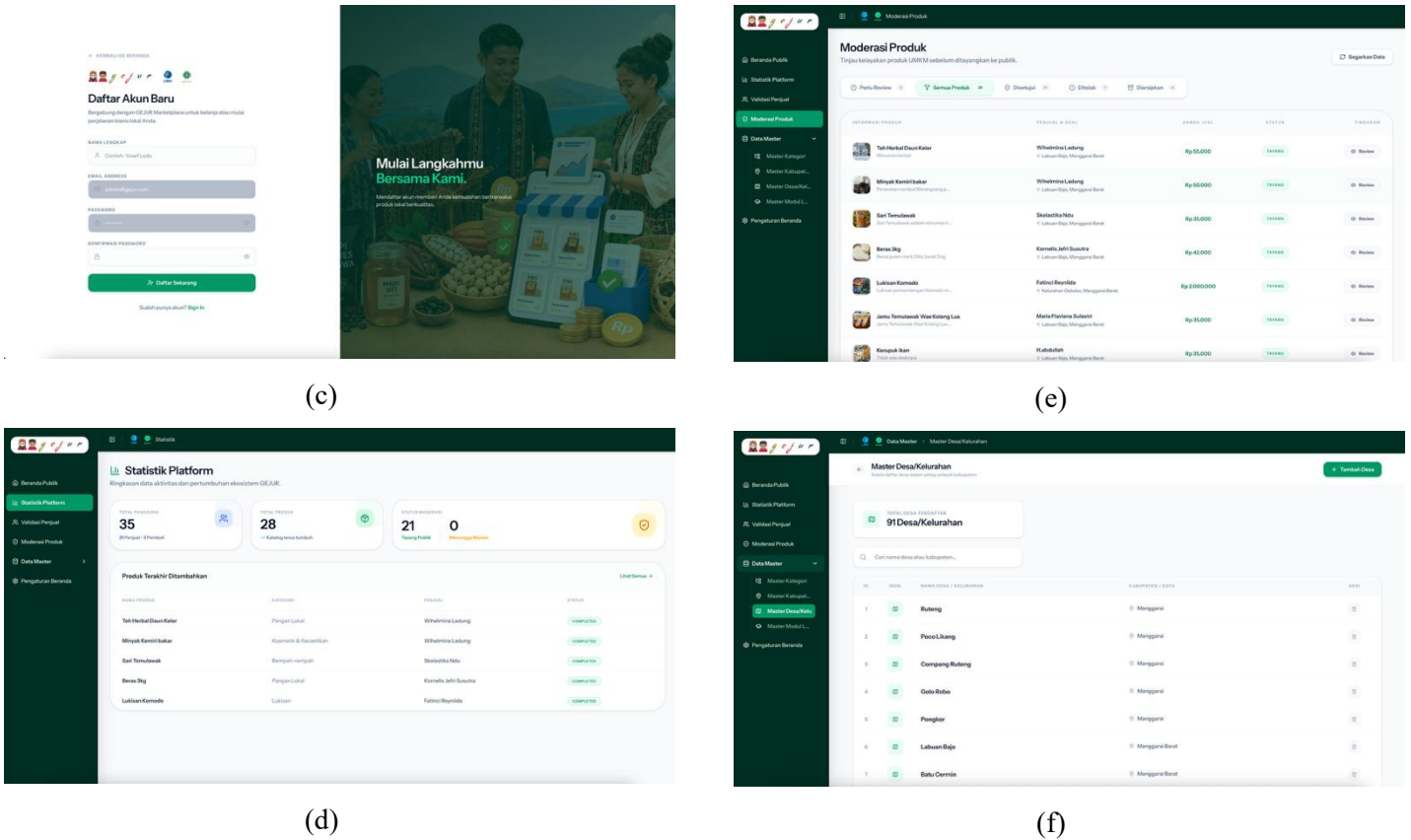


Figure 2. Web-based Gejur Catalog User Interface and Features

In the first year of the GEJUR study, visual culture emerged as a key element in strengthening the platform's contextual relevance. Therefore, the integration of East Nusa Tenggara's cultural identity through local visual elements, design patterns, and product representations was developed to make the platform feel familiar and more relatable to young entrepreneurs in NTT.

4.3. Implementation of GEJUR Catalog

The launch phase of the GEJUR catalog invited users, such as sellers and prospective buyers, to attend in person so they could experience the platform firsthand. This direct engagement provided developers and users with an opportunity to exchange feedback on the needs of the GEJUR catalog. The platform's homepage features the message "From NTT, for Indonesia," reflecting that the GEJUR catalog integrates culture with the convenience of shopping, while also contributing to regional economic growth. The platform also offers business education on financial and legal matters.

The architecture and data flow of the GEJUR catalog are shown in [figure 3](#). Tailwind CSS, through the React front-end and JavaScript, enables platform access for several user types: general visitors, buyers, sellers, and administrators. User requests are processed by the application service layer, which handles authentication, user roles, catalog searches, product management, orders, moderation, and access to the LMS. MySQL then stores the processed data. Next, the transaction process involves sending order details via WhatsApp, after which the buyer and seller continue their communication and proceed with payment.

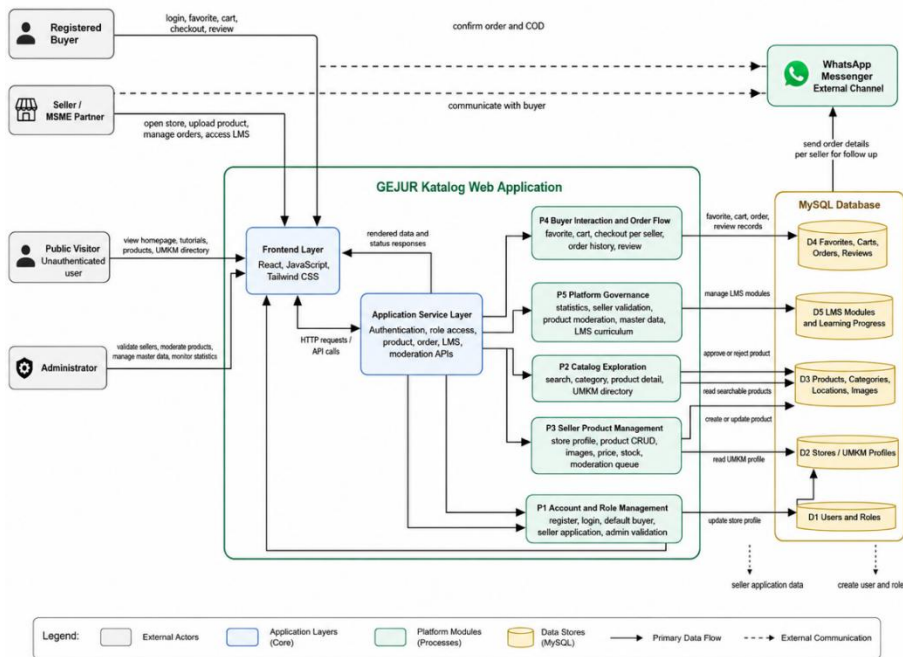


Figure 3. GEJUR Catalog System Architecture and Dataflow Diagram

The database schema in [figure 4](#) illustrates the management of key data entities in the GEJUR catalog. The user, role, and user-role tables control access for buyers, sellers, and administrators. The seller profile then stores information about stores and MSMEs. Categories, locations, product images, and seller accounts are linked to product data. Furthermore, the favorites list, shopping cart, orders, order items, and reviews track buyer activity. The interconnection of this data gives the platform a well-integrated structure for managing catalog data, transactions, governance, and capacity and capability development. The database also supports sales and product moderation, as well as an LMS module to advance user learning.

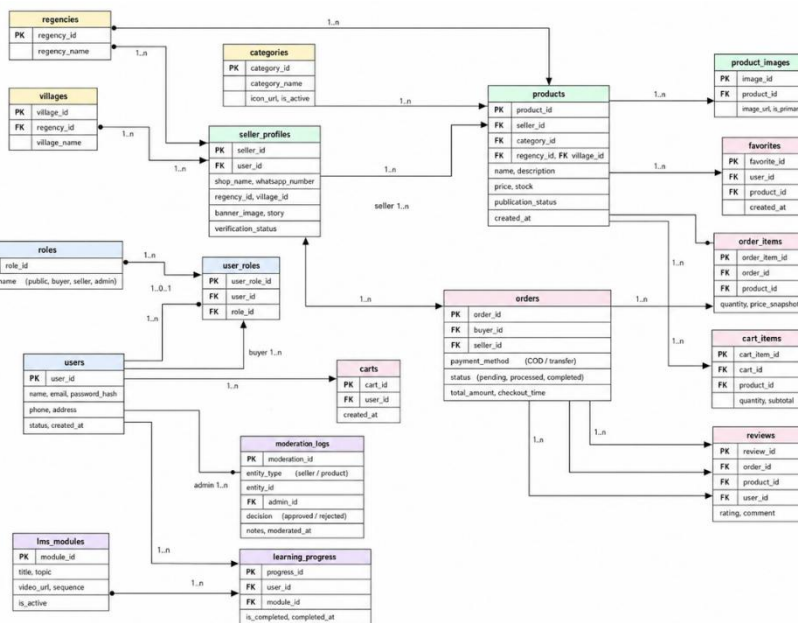


Figure 4. GEJUR Conceptual Database Schema

The platform also provides video tutorials for all users, offering step-by-step guides on conducting transactions, from registration to payment, and on managing stores and products. The products featured typically include coffee, cocoa, honey, cashews, woven crafts, and local foods. The platform also showcases featured local products, such as local

herbal tea, candlenut oil, Javanese turmeric products, rice, Komodo-themed paintings, and other MSME products from NTT. However, the payment process on this platform is not yet integrated with online payment systems via QR codes, bank transfers, or digital wallets; instead, payments are made only through WhatsApp and in cash upon delivery. This decision was made to address transaction barriers and minimize administrative fees for both users and sellers. Additionally, the platform plans to update its payment methods based on evaluation results gradually.

The evaluation was conducted using a perception-based questionnaire, with operational indicators reported through the GEJUR catalog admin dashboard. The platform recorded 35 registered users: 31 sellers and 3 buyers, with a total of 28 products uploaded. Twenty-one products have been published, as shown in Figure 2, point d. The new GEJUR catalog indicators show data on seller registrations, product uploads, and product publications during the initial launch phase. Transaction metrics, such as sign-ups, conversions, payment records, and user retention, cannot yet be collected because payment features are still limited. Current operational metrics are interpreted as early evidence of platform adoption, which will be further developed once various payment methods are implemented.

This study adds feature-level analysis to the GEJUR catalog, providing a broader range of data for further development. The results reveal several insights from the user's perspective. First, sellers need account creation and product upload and management features, as these allow them to register their business identity, display products, and manage product information all within a single platform. Second, buyers need category features and detailed product information, as well as search functions and WhatsApp-based transaction guidance, since they can make purchasing decisions based on the comprehensiveness and ease of product search, as well as a transaction process already familiar to users. The features on this platform benefit local SMEs, particularly in Labuan Bajo, an area with high tourism activity, thereby providing potential exposure for local products. Although the platform cannot yet measure actual transaction data, it can demonstrate its utility through ease of use and potential market access—information sellers can use to boost sales. Future evaluations should include feature-specific metrics, such as completion rates, time spent, error rates, usage frequency, and satisfaction with the features, so that future development and research can gather data on which features have the greatest impact on adoption and business outcomes.

Moving forward, further development should integrate secure payment gateway services and provide logistics services capable of tracking shipments, enhance credibility through product verification mechanisms, and monitor transactions, seller performance, and platform activity via an administrative monitoring dashboard. It is necessary because the current approach limits transaction automation, sales monitoring, business analytics, and user trust. Improvements in future development are expected to enhance operational efficiency, transparency, accountability, and evidence-based platform management, while also presenting a clear roadmap for transforming the GEJUR catalog into a sustainable commercial digital marketplace.

Furthermore, future payment gateway integrations must also evaluate technical, economic, regulatory, and user acceptance perspectives before commercial deployment. Platforms must ensure secure authentication, encrypted transactions, and the protection of user data and financial information as part of the technical evaluation. Furthermore, payment gateway service fees and transaction costs must remain affordable for MSMEs to avoid significantly impacting profit margins and platform adoption—key indicators in the economic evaluation. Additionally, QR code standardization, compliance with Bank Indonesia regulations, and electronic transaction requirements must be met during the regulatory evaluation. Finally, transparent payment procedures, clear refund mechanisms, effective and transparent dispute resolution, transaction notifications, and reliable seller verification strengthen user trust as part of the user trust evaluation. All strengths, weaknesses, and evaluation criteria must be understood during product development to ensure GEJUR becomes a sustainable commercial e-catalog platform.

4.4. Usability Evaluation through SUS

The usability evaluation involved questionnaire data from 41 respondents. This study adopted a modified SU framework with eight usability statements to measure ease of use, need for assistance, feature integration, interface consistency, ease of learning, confusion, user confidence, and learning effort. The questionnaire scoring technique followed the adapted and modified SUS instrument. Positive items were scored using the formula “score minus 1,” while negative items were scored using the formula “5 minus the score.” The final score was then calculated and

converted to a scale of 0 to 100 using the following formula (1). The distribution of adapted SUS scores is shown in figure 5.

$$\text{Adapted SUS Score} = \sum \text{item contribution} \times \frac{100}{32} \quad (1)$$

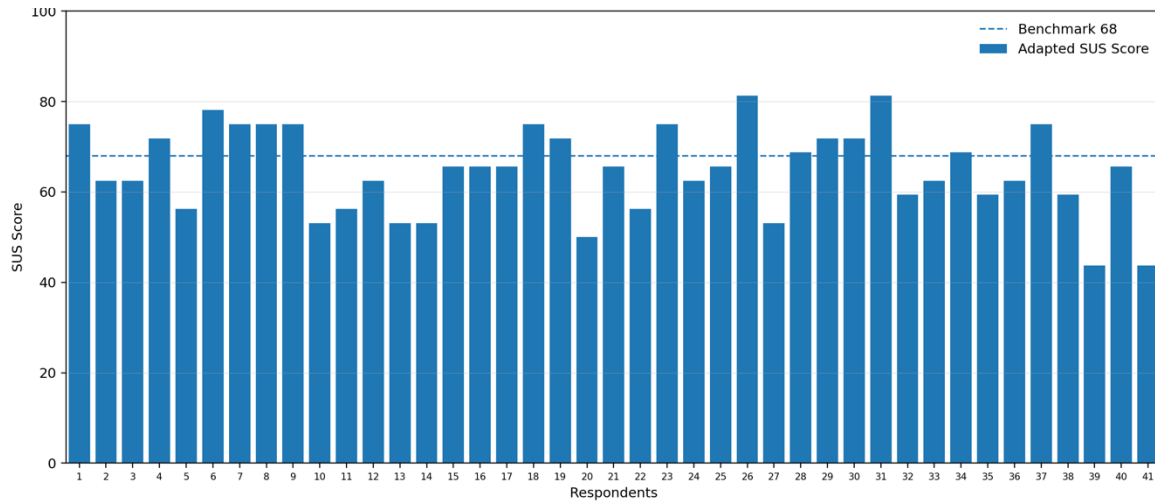


Figure 5. Distribution of Adapted SUS Scores

The scoring results in table 4 show that the GEJUR catalog still falls below the threshold for acceptable usability, though the difference is relatively small: mean 64.8, standard deviation 9.6, minimum 43.8, median 65.6, and maximum 81.2.

Table 4. Summary of Adapted SUS Results

No	Metric	Value	Interpretation
1	Number of respondents (N)	41	Complete adapted SUS responses
2	Mean Adapted SUS Score	64.8	Below benchmark 68, but close to acceptable usability
3	Median Adapted SUS Score	65.6	Consistent with the mean, indicating stable central tendency
4	Standard Deviation	9.6	Moderate variation across respondents
5	Minimum Adapted SUS Score	43.8	Lowest perceived usability
6	Maximum Adapted SUS Score	81.2	Highest perceived usability in sample
7	SUS Benchmark Reference	68	Threshold for acceptable usability
8	GEJUR Catalog SUS Category	Marginal, approaching acceptable	Functional and usable, but still needs refinement

The responses were relatively stable, with the mean score close to the median.

$$\begin{aligned} \text{Effectiveness (\%)} &= \frac{\text{Adapted SUS Score}}{\text{Benchmark SUS Score Mean}} \times 100 \\ &= \frac{64.8}{68} \times 100 = 95.3\% \end{aligned} \quad (2)$$

Furthermore, based on the questionnaire or evaluation results, this platform requires clearer guidelines, a simpler interaction flow, and further refinements before it can be implemented on a wider scale. The questionnaire results show that 16 respondents, or 39.0%, scored 68, while the other 25, or 61.0%, scored below 68; therefore, the average SUS score cannot be stated as 95.3% of the benchmark. This score is more appropriately interpreted as slightly below the generally accepted usability threshold.

In addition to the adapted SUS score, the measurement instrument was evaluated for internal consistency and convergent validity at the construct level. As an exploratory study, the Cronbach's Alpha between 0.60 and 0.70 is acceptable if the composite reliability and AVE values meet the criteria. A construct is said to have convergent validity if the Average Variance Extracted (AVE) value is > 0.50 which indicates that the construct is able to explain more than half of the variance in its indicators. Table 5 explain the reliability and convergent validity value for each constructs used in this study. Based on the table 5, all constructs have met the study's exploratory reliability criteria and exceeded

the AVE threshold of 0.50, supporting internal consistency and convergent validity. The System Usability construct had the lowest Cronbach's Alpha (0.662), but this value remains acceptable for exploratory research because both composite reliability coefficients were above 0.70 and AVE exceeded 0.50.

Table 5. Reliability and Convergent Validity of the Measurement Constructs

Construct	Cronbach's Alpha (CA)	Composite Reliability (CR) rho _a	Composite Reliability (CR) rho _c	AVE	Conclusion
Digital Literacy	0.778	0.779	0.849	0.529	Reliable & Valid
System Usability	0.662	0.717	0.806	0.586	Reliable & Valid
User Experience	0.837	0.844	0.880	0.552	Reliable & Valid
Youth Business Performance	0.826	0.859	0.896	0.741	Reliable & Valid

The usability evaluation used an adapted SUS instrument consisting of eight items. Two original SUS statements were not included. The first excluded item, "I think that I would like to use this system frequently," was considered less relevant because GEJUR Katalog was still in the early deployment and hands on testing stage, so frequent use could not yet be measured as actual behavior. Other items—such as the need for assistance, interface inconsistencies, confusion, and the learning curve—already align with the second item, which states, "I find this system too complicated," so those items were omitted. This adapted instrument focuses more on practical usability as an initial evaluation of the GEJUR catalog among young MSME users.

4.5. Findings and Discussions

This study included an evaluation phase, which is always used as a reference for further development. At least three findings emerged from the evaluation, both qualitative and quantitative. First, this platform expands the GEJUR ecosystem beyond learning to one that can access the market through an e-catalog. In its first year, GEJUR focused solely on learning, such as educational materials, mentoring, and entrepreneurial knowledge. Currently, GEJUR has introduced an upgrade in the form of a catalog in its second year, while continuing to provide learning modules and offering a platform for young people to sell their MSME products.

Second, this platform integrates cultural elements into its user interface (UI). Its design, which combines local visual identity, product categories, and representations of local SME products, makes the platform appealing to both local users and tourists. This cultural relevance is crucial because users can conduct transactions while simultaneously promoting local cultural concepts to users from outside the region, ensuring that local entrepreneurs remain integral to Indonesia's broader economic growth. Third, this platform offers a comprehensive and diverse set of features. It also features a tutorial structure that supports users of all skill levels. Furthermore, the survey results align with the available features. Items related to user experience received positive feedback. Recommendations, visual design, satisfaction, clarity of product information, and the search function received positive feedback.

Furthermore, the questionnaire results align with the available features. Items related to user experience received positive feedback. Recommendations, visual presentation, satisfaction, clarity of product information, and search functionality received positive feedback. Items related to market reach, sales and revenue opportunities, customer awareness, promotional efficiency, and overall business performance also scored highly in terms of expected business impact. Users believe that the GEJUR catalog will be useful for supporting MSME promotions and expanding market access.

This interpretation is subject to an important limitation. Because the GEJUR Katalog has only recently been introduced to youthpreneurs in East Nusa Tenggara and has not yet been fully implemented, the current evaluation is limited to early e-catalog use, particularly users' ability to register, upload products, and present product information. This study did not measure actual business performance indicators such as: sales revenue, transaction volume, conversion rates, repeat purchases, or customer acquisition. These indicators will be evaluated in the next research stage after the GEJUR platform has been fully implemented and has reached sufficient operational use. A further limitation is potential social desirability and acquiescence bias. Because the research team was involved in the program, platform testing,

deployment, and survey administration, some participants may have felt inclined to provide favorable ratings. Voluntary participation, confidentiality, platform-focused questions, and aggregate reporting were used to mitigate this risk, but they could not eliminate it. Therefore, positive usability, user experience, and expected business-impact ratings should be interpreted cautiously. Future studies should use an independent administrator, anonymous self-completion, and delayed follow-up measurement.

However, the SUS results show that GEJUR Catalog still needs refinement. The SUS score averaged 64.8, indicating marginal usefulness. The analysis suggests that some users still require initial orientation, clear instructions, and hands-on guidance when using the platform's features, whether as sellers or buyers. The results of the analysis are evident in the two areas with the lowest scores: statements regarding the need for assistance and the need to learn the platform thoroughly and effectively.

Improvements based on the SUS questionnaire analysis can be categorized into several priorities. First, step-by-step instructions should be clearer during the seller registration and product upload processes. Second, after users add, edit, or delete product data, the CRUD functions should display clearer feedback messages. Third, users need to understand how to proceed with the purchase process by displaying and clarifying the buyer's journey from product discovery to transaction via WhatsApp. Fourth, interface consistency must be maintained across all public, buyer, seller, and administrator pages, ensuring no significant differences in appearance for each user type. Fifth, every relevant page should provide access to tutorial videos. Despite the noted improvements, the GEJUR catalog shows a trend toward greater usability than in the LMS evaluation in the first year. Although the instruments used were not entirely identical due to several updates, the improvements made in the second year have enhanced perceived usability. However, the platform still requires further testing and refinement. The average SUS score in the first year was 48.9 [6], placing it in the "poor but functional" category, while the second-year score reached 64.8, approaching an acceptable level.

However, comparisons of SUS scores must be interpreted carefully. The LMS evaluation in the previous year used an adapted SUS questionnaire with 10 measurement items, while the current GEJUR catalog evaluation uses an adapted SUS questionnaire with 8 adjusted measurement items. Furthermore, the previous LMS focused on entrepreneurship education, so its interface was designed to be simple and user-friendly for learning. In contrast, this year's GEJUR builds on that concept by adding an e-catalog focused on sales, product visibility, and buyer interaction. Therefore, the results of the comparison cannot be concluded simplistically. The evaluation results should be understood as descriptive indicators that provide valuable insights for future innovations in GEJUR. Future evaluations should use the same usability instruments for both the LMS module and the e-catalog to support more accurate longitudinal comparisons.

Overall, the GEJUR catalog platform has provided digital market access services for young MSMEs in East Nusa Tenggara. This platform also includes data on sellers and buyers, products, stores, video tutorials, culture, and WhatsApp-based transaction support. Based on the current development, future improvements should focus on enhancing usability, simplifying the registration process, strengthening product management, and integrating digital payments. These updates are expected to support and reinforce GEJUR's goal of integrating learning theory and practice into a single platform for youth-led MSMEs in East Nusa Tenggara, thereby contributing to regional economic growth.

Furthermore, the current evaluation is based on user needs, usability assessments, and business benefits. Future studies should complement these developments and findings with additional indicators, such as transaction volume, completed sales, customer retention, product views, and seller performance, to help users identify high-quality sellers. Additional features include secure, compliant payment integration, logistics support, product verification mechanisms, and monitoring via an admin dashboard. These developments strengthen transaction security, user trust, and business automation, and enable the GEJUR catalog to evolve from an early-stage prototype into a scalable and sustainable digital marketplace for youth-led MSMEs.

The thematic analysis group is divided into seven main themes. Table 6 shows the summary of coding thematic analysis. These themes include digital literacy, business benefits, the buyer interaction process, seller registration, ease of use, cultural relevance, and future development needs. These themes indicate that the GEJUR catalog serves as a platform that enhances product visibility and market access for young entrepreneurs. However, improvements are still needed in interface consistency, product uploads, seller registration, user guides, and transaction workflows.

Representative quotes such as “In this catalog, we can share the stories behind our MSMEs. That way, we can better convey their value.” “In this catalog, we can share the stories behind our MSMEs. That way, we can better convey their value rather than just selling the products.” Then, “WhatsApp is easier to use. It allows for direct communication with people. People here don’t want to open an app; they want to visit a website,” and “We hope that in the future, friends, when marketing this product, buyers will come not only from the local areas but also from other regions.” These were added to provide transparency regarding the coding of themes that describe the product narrative and business utility, buyer interactions and transaction flows, as well as market reach and expected business impact.

Table 6. Summary of Coding Thematic Analysis

Main Theme	Sub-Theme	Initial Codes	Summary Interpretation
Ease of Use and Usability	Navigation clarity	Easy to navigate; confusing menu; unclear page flow; difficult to find features	Users may find the platform functional, but clearer navigation is needed to reduce confusion.
	Interface clarity	Clear display; attractive layout; inconsistent interface; unclear buttons	The interface is generally useful, but consistency across pages should be improved.
	Learning effort	Need to learn first; need assistance; require tutorial; difficult for first-time users	Some users still need guidance to use the platform confidently.
	User confidence	Confident using platform; afraid of making mistakes; unsure after submitting data	Stronger feedback messages can help users feel more confident when using the system.
Seller Onboarding and Product Management	Seller registration	Register as seller; difficult registration; unclear seller steps; need a step-by-step guide	Seller onboarding should be simplified so youthpreneurs can join the platform more easily.
	Product upload	Upload product; add product photo; add product price; product description	Product upload is a core function that supports seller participation and product visibility.
	Product management	Edit product; delete product; update stock; manage product category	Sellers need clear product management tools to maintain accurate catalog information.
	Shop profile	Shop name; seller identity; shop location; product category	Shop information helps buyers understand seller identity and product credibility.
Buyer Interaction and Transaction Flow	Product discovery	Search product; browse category; view featured products; find local products	Product discovery enables buyer access to local youthpreneur products.
	Product information	Product details; product photo; price information; seller information	Clear product information can increase buyer understanding and trust.
	Transaction continuation	Contact seller; WhatsApp order; ask product availability; continue purchase	WhatsApp-based communication is familiar, but the buying flow should be made more visible.
	Payment and delivery	Cash on delivery; no direct payment; payment gateway needed; QR code payment expectation	The current transaction model supports early adoption, while future payment integration is needed.
Cultural Relevance and Local Identity	Local visual identity	Local motif; local pattern; cultural design; regional color and symbol	Cultural elements make the platform feel more relevant to local users.
	Local product representation	Coffee; cacao; honey; cashew; woven crafts; local food	Product categories reflect the economic and cultural identity of East Nusa Tenggara.
	Regional pride	Tagline; proud of local products; promote local products	The platform can strengthen pride and visibility for local youthpreneur products.
	Product promotion	Promote product; increase exposure; online catalog; easier product display	GEJUR Catalog is expected to help youthpreneurs promote products more effectively.
Perceived Business Usefulness	Market reach	Wider market; reach outside region; connect with buyers; national visibility	The platform can support broader market access for MSME products.
	Customer trust	Clear shop information; product details; seller identity; professional display	Better product and seller information can increase customer trust.
Digital Literacy and Adoption Barriers	Sales opportunity	Increase sales; income opportunity; more orders; business growth	Users may perceive the platform as useful for improving MSME business opportunities.
	Digital skill level	Limited digital skill; first time using e-catalog; unfamiliar with system	Different levels of digital literacy may affect user adoption.
	Device and access condition	Smartphone use; internet access; unstable connection; limited device	Access conditions should be considered when designing platform features and tutorials.
	Need for support	Need tutorial video; need mentoring; need admin help; need practice	Ongoing support is important for early-stage users.
Future Development Needs	Interface improvement	Consistent layout; clearer buttons; simpler menu; better visual hierarchy	Interface refinement can improve usability and user experience.
	Onboarding improvement	Step-by-step seller guide; guided product upload; registration tutorial	Better onboarding can reduce learning effort and user dependence on assistance.
	Transaction improvement	Clear buying steps; order status; WhatsApp button visibility; checkout guidance	The buyer journey should be clearer from product discovery to transaction.
	Payment integration	QRIS; bank transfer; e-wallet; payment gateway; Midtrans; Doku	Future payment integration can make GEJUR Catalog a more complete digital market platform.
	System feedback	Success notification; error message; confirmation after upload; data saved message	Clear feedback can help users know whether their actions were completed successfully.

5. Conclusion

This study developed and evaluated GEJUR Catalog as the second-year continuation of the GEJUR research. The first year focused on the development of a web based LMS for entrepreneurship learning, while the second year extended

the platform into an e catalog to support youth MSME product visibility and market access in Nusa Tenggara Timur. This continuation is consistent with the previous GEJUR research design, where the e catalog was planned as a follow up platform after youth entrepreneurs improved their skills through the LMS.

The development process began with mock up and user interface design using Adobe Illustrator, followed by interactive prototyping using Figma. The currently operational application is a prototype built using Tailwind CSS, React, JavaScript, and MySQL. The platform offers several key features, such as management, guides, payment transactions, file uploads, and registration. GEJUR also provides business learning materials on finance and legal matters, as well as guides on how the public, buyers, sellers, and partners can access the platform.

The usability evaluation yielded an average score of 64.8 from 41 respondents. This score is interpreted as marginal, meaning that the GEJUR catalog is close to meeting its goals. The platform still requires refinement before it can be implemented on a larger scale, particularly in user assistance, learning, clarity of initial orientation, product management, interface consistency, and transactional guidance. However, the platform is already functioning well and can be used by its target users. Reliability estimates and validity tests also provide methodological support for the adapted SUS construct. Cronbach's Alpha coefficients ranging from 0.662 to 0.837, rho_a values ranging from 0.717 to 0.859, rho_c values ranging from 0.806 to 0.896, and AVE values ranging from 0.529 to 0.741 indicate that the construct meets the criteria for exploratory and convergent validity. However, these results should be interpreted with caution, given the small purposive sample of 41 respondents during the platform's initial implementation stage.

The initial phase of this study focuses on evaluating early adoption of the e-catalog and the ability to upload products before the full implementation of the platform; therefore, this study has not yet examined actual sales, transaction volumes, or customer acquisition. Objective indicators will be measured once the GEJUR platform is fully operational and functioning at maximum scope. Moreover, this study highlights several advantages, including the fact that the GEJUR catalog practically links entrepreneurship education with market access, thereby ensuring that the learning program continues through to the product promotion stage. Furthermore, this platform integrates local cultural identity relevant to its users through visual design and the representation of local products. Moreover, this platform supports MSMEs' digital adoption by using WhatsApp and cash payments, which are already familiar to users, without additional administrative fees.

Overall, the GEJUR catalog serves as a solid foundation for developing young people's entrepreneurial skills in East Nusa Tenggara. This platform supports capacity building in terms of visibility, interaction, literacy, and participation in the local economy. Several recommendations can be drawn from this study: future research could expand the number and diversity of respondents, evaluate user behavior over a specific period, and measure business outcomes in aggregate, such as the number of products, orders, repeat customers, and sales conversion rates. Furthermore, future research could enhance transaction methods by integrating payment gateways via QR codes, bank transfers, digital wallets, or services like Midtrans, Mayar, or Doku. Furthermore, transaction security, administrative costs, regulations, user trust, and other factors also need to be examined to ensure the long-term commercial success of the GEJUR catalog. Moreover, the platform could be improved by incorporating logistics-readiness measures, product verification mechanisms, and administrative monitoring tools to support transaction automation, transparent market governance, and large-scale implementation.

These findings have limitations in terms of their generalizability. The scores for utility and business benefits in this study should be reported in context and considered exploratory to avoid biasing the evaluation. Future research could use a larger and more diverse sample across all regencies and cities in East Nusa Tenggara by employing probabilistic or stratified sampling where feasible.

Furthermore, conclusions regarding the platform's utility remain preliminary because the sample size was not determined based on statistical power. Future studies should determine the sample size based on the population by recruiting participants from various villages and business sectors or through a priori analysis using statistical tests, taking into account the effect size, significance level, and desired statistical power. It will yield representative data on platform usage and support accurate regional and cross-group comparisons.

Although the SUS scores indicate that the GEJUR catalog functions well and is close to an acceptable level of usability, the themes identified in the qualitative data provide a descriptive explanation for why some users may still require assistance, particularly in understanding how GEJUR works. Thus, the qualitative findings support and complement the quantitatively described usability results.

6. Declarations

6.1. Author Contributions

Conceptualization: F.K., J.W.; Methodology: F.K., N.W.D.; Software: A.A., T.D.S.; Validation: J.W., N.W.D.; Formal Analysis: F.K.; Investigation: T.D.S., A.Z.M.; Resources: J.W., A.Z.M.; Data Curation: T.D.S.; Writing – Original Draft Preparation: F.K.; Writing – Review and Editing: N.W.D., A.Z.M.; Visualization: A.A.; All authors have read and agreed to the published version of the manuscript.

6.2. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

6.3. Funding

This study is conducted with the support funding from Kementerian Pendidikan Tinggi, Sains, dan Teknologi Republik Indonesia with the Contract No. 0510/LL3/AL.04/2026. This study is a collaboration research with Yayasan Kehati, under the Memorandum of Agreement No. 540/Rektor/VI/2025 (UMN) and No. 003/KHT/LGL/KP/KK/VI/2025 (Yayasan Kehati).

6.4. Institutional Review Board Statement

This study is conducted by the approval of Universitas Multimedia Nusantara Ethical Board Committee under the Letter No. 3296/RIS/VII/2025.

6.5. Informed Consent Statement

Informed consent was obtained from all participants involved in the study. Before the data collection, the researcher team explained the purpose of the research and data confidentiality. A statement of consent is considered valid as a form of informed consent because all the participants approved the process consciously and voluntarily.

6.6. Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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