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Usability Evaluation and Solution Design Improvement of OCTO Friends as Banking Referral Application

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Abstract

OCTO Friends application was developed to allow customers to directly participate in banking product referral programs, but it has yet to meet its expectations and targets. Only 10.6% of the 39,105 members have actively provided referrals, and the business conversion rate was only 10% of the target. This study aims to evaluate the application's usability and generate recommendations for the improvement of its interface design. A mixed-methods approach was taken, including such quantitative procedures as user needs questionnaires and the System Usability Scale (SUS), along with qualitative methods of in-depth interviews and usability testing. Data collection for the questionnaires involved 104 respondents, resulting in a list of user needs and an SUS score of 66. The results showed that OCTO Friends requires certain improvements. In-depth interviews and usability testing for 6 main functions led to 46 interface design improvements, especially those concerning referral data input, follow-up referrals, and incentive information functions (these being the primary functions of referral application).

A. Introduction

Bank Umum Swasta Domestik's credit ratio increased by 9.06% year-over-year (YoY) to IDR 6,739.40 Trillion with a significant increase in investment credit of 11.25% YoY in August 2023 [1]. Bank Indonesia's optimistic credit rate for 2023 was 10.9%, up from 11.4% in 2022, and 5.2% in 2021 [2]. This represents a clear enlargement opportunity, as well as a chance for financial institutions and financial technology (fintech) companies to enhance their credit management strategies and expand business growth. Aligned with this is the notion that the COVID-19 pandemic has led to the transformation of digital banking, with the public demanding economic transactions through digital platforms [3]. Indeed, Bank CIMB Niaga, which has successfully implemented digital banking in daily life, has argued digitalization to be an integral part of its strategy, with branchless banking and digital channels being used in over 97% of cases [4].

As the focus of the strategy pillar, Bank CIMB Niaga is focusing on implementing advanced information technology to enhance customer transactions, and provide speed, accuracy, comfort, and security [5]. Along with mobile banking (OCTO Mobile) and internet banking (OCTO Clicks), Bank CIMB Niaga developed OCTO Friends as a banking referral application to reference its products (Figure 1). OCTO Friends contributes to business acquisition through product recommendations or referrals to groups and communities. Aligned with Capgemini in OJK (2021), a primary trait of new-age banks is that a sizable community can represent a viable avenue for business expansion for the industry [6] [7].

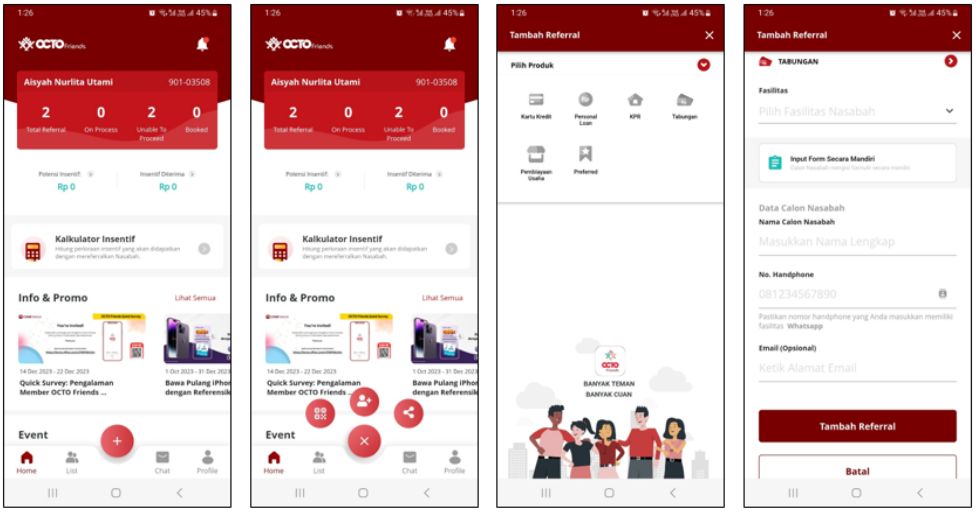

Figure 1. OCTO Friends application

Having been in operation for four years, there is a need to evaluation the OCTO Friends application as a banking referral platform. A more detailed analysis, based on Marchewka's domains of processes, people, technology, and organization, is warranted [8]. From the problem formulation within these four domains, the most fundamental issues inherent in the application's use arise primarily within the domains of technology and processes.

Several technology and process challenges highlighted by users in Google reviews include difficulties encountered during the referral input stage due to the

absence of any visible prompts, thereby hindering data entry (30 individuals found this review helpful) [9]. Additionally, the process of following-up on referrals is perceived as excessively time-consuming. Addressing these issues is paramount, as accurate data provision and efficient referral input are critical determinants of the overall success of the referral process. Consequently, based on this problem statement, this article seeks to answer the following research questions:

RQ1. What is the usability evaluation of OCTO Friends as a banking referral application?

RQ2. What solutions for interface design improvement are there according to user needs for the referral application?

The purpose of this study is to evaluate the usability of OCTO Friends as a banking referral application. In so doing, this study can provide solutions for improving the interface design, which can be used to more successfully develop the application and produce strategic step recommendations (where applicable) to be used for any referral application. A research scope or limitation of this study is that it was conducted on the OCTO Friends application, owned by Bank CIMB Niaga, and focuses on evaluating the usability of the application.

B. Research Method

This research used a multiphase, mixed-methods approach [10], combining quantitative and qualitative methods (Figure 2). The quantitative component involved a user needs questionnaires and the System Usability Scale (SUS), while the qualitative section involved in-depth interviews and usability testing. The research sought to provide feedback and responses from users to address the existing design issues using user needs questionnaires, SUS, in-depth interviews, and usability testing. For the usability testing phase in particular, several respondents who were registered users in the application were invited to discuss the current application design.

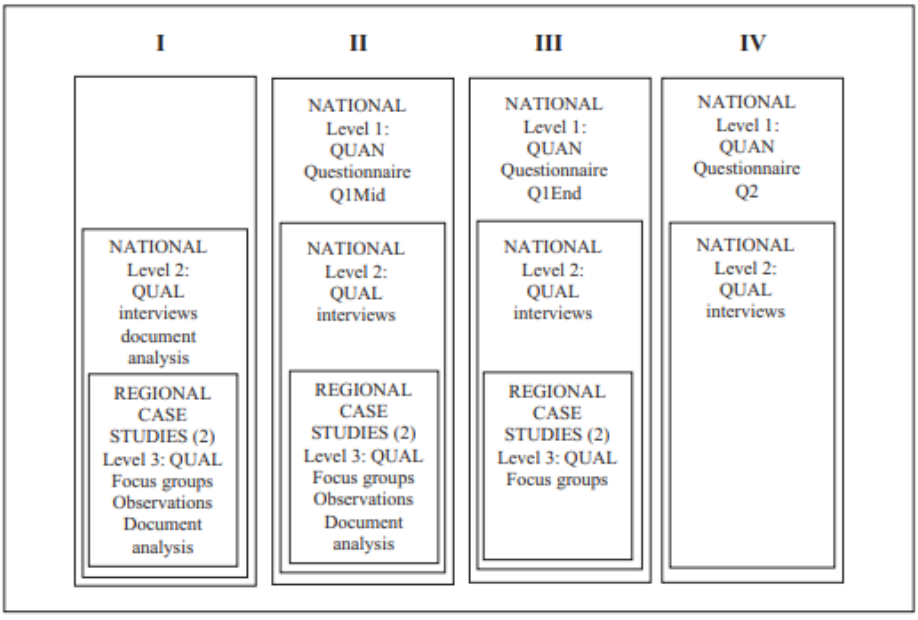

Figure 2. Multiphase, Mixed-Methods Design

Table 1. Research Design

Component	Identity
Classification	Multiphase mixed-methods
Research Category	Case study
Paradigm	Evaluative
Research Objectives	Understand the usability of OCTO Friends and provide recommendations for interface design improvement
Research Results	Interface design improvement solution based on user needs
Data Collection	1. User needs questionnaire 2. SUS questionnaire 3. In-depth interview 4. Usability testing
Data Sampling Strategy	Purposive sampling

In particular, quantitative and qualitative combined research was expected to provide comprehensive results for improved application development. A summary of the research design, containing the components of classification, research category, paradigm, research objectives, results, data collection, and data sampling strategy, is presented in Table 1. Furthermore, the research stages are illustrated in Figure 3.

Figure 3. Research Stages

References in using this research instrument were obtained from the Systematic Literature Review (SLR) process by Kitchenham through analyzing previous research relevant to this study [11]. Based on the SLR, seven studies were found which were used as reference points for evaluating the usability of a banking app [12], e-commerce [13], ShopeePay [14], educational chatbot [15], Mobile Application MRI Safety Screening [16], GCash, Maya, Grabpay [17], and e-wallet applications [18]. In addition, in-depth interviews were also included so as to complement the usability testing. Accordingly, this study used the following research instruments used:

1. User needs questionnaire
2. SUS questionnaire
3. In-depth interviews
4. Usability testing

The user needs questionnaire contained several screening questions in the form of respondent demographics, which were used to determine the respondents' ages and occupations, as well as for how long they had been customers of Bank CIMB Niaga and used the OCTO Friends app. Moreover, these questions revealed the users' activeness in providing referrals in OCTO Friends, as well as their willingness to conduct in-depth interviews at a later stage.

User Experience

As the focus of this research, user experience was divided into three categories: (1) information architecture, which is the process of forming system organization principles to deliver information from products to users; (2) interaction design, which concerns how a product structure is run by users; and (3) identity design, which encompasses everything that amplifies the personality and attractive side of a product [19]. In addition, user needs form an integral part of user experience. User experience has five important elements in its preparation, namely strategy, scope, structure, skeleton, and surface [20]. These five essential elements provide a conceptual framework about user experience problems and the tools used to solve them (Figure 4).

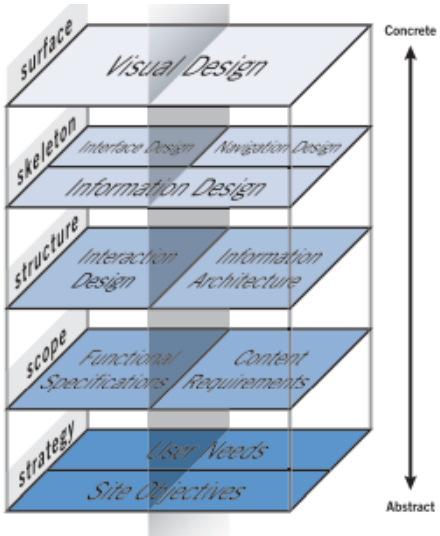

Figure 4. The Elements of User Experience

Usability Evaluation

Usability evaluation is used to determine the user's ability to use and learn an application or product so as to achieve certain goals or objectives. Usability evaluation is conducted by measuring the quality of communication (interaction) between technology products (systems) and their users [21]. The unit of measurement is user behavior in a particular context of use. Usability evaluation measures how users view a system's use. The usability measurement model should include aspects of (1) effectiveness, namely the ability of users to complete work using the system, and the quality of the output of the work; (2) efficiency, namely the level of resources needed to complete the work; and (3) satisfaction, namely the subjective reaction of users when using the system.

System Usability Scale (SUS)

The questionnaire used to measure usability refers to the SUS, which contains 10 simple statements about the system, measured on a Likert scale [22]. The SUS statement in this study was adapted into Indonesian [23], as seen in Table 2.

Table 2. SUS Indonesian Version

No.	System Usability Scale	Scale
1	Saya berpikir akan menggunakan sistem ini lagi	1-5
2	Saya merasa sistem ini rumit untuk digunakan	1-5
3	Saya merasa sistem ini mudah untuk digunakan	1-5
4	Saya membutuhkan bantuan dari orang lain atau teknisi dalam menggunakan sistem ini	1-5
5	Saya merasa fitur-fitur sistem ini berjalan dengan semestinya	1-5
6	Saya merasa ada banyak hal yang tidak konsisten (tidak serasi) pada sistem ini	1-5
7	Saya merasa orang lain akan memahami cara menggunakan sistem ini dengan cepat	1-5
8	Saya merasa sistem ini membingungkan	1-5
9	Saya merasa tidak ada hambatan dalam menggunakan sistem ini	1-5
10	Saya perlu membiasakan diri terlebih dahulu sebelum menggunakan sistem ini	1-5

Shneiderman's Eight Golden Rules of Interface Design

As a reference for previous research on guidelines for mobile devices based on Shneiderman's eight golden rules of interface design [24] [25], the following guidelines can be used for mobile devices.

Table 3. Shneiderman's Eight Golden Rules of Interface Design

No.	Principles/Rules	Explanation
1	Enable frequent users to use shortcuts	Users can use a system more effectively and efficiently if they need fewer steps or less interaction time to accomplish their goals.
2	Offer informative feedback	Every activity or action performed by the user must have feedback from the system.
3	Design dialogs to yield closure	There is a sign that the user has completed a certain action.
4	Support internal locus of control	The user has full control over the system and the system must respond to the actions performed by the user.

No.	Principles/Rules	Explanation
5	Strive for consistency	Consistency in the use of colors, icons, buttons, and overall functions in the system.
6	Prevent errors and simple error handling	The system makes it easy for users to identify mistakes or errors made, and the system provides simple handling for users to quickly solve problems.
7	Permit easy reversal of actions	Users can easily process the return or reverse of an action that has already been done.
8	Reduce short-term memory load	The interface design of a system must be simple and easy to understand by users, so as to reduce user thinking time in performing certain actions in the system.

Additionally, Shneiderman's golden rules include a need to seek universal usability rules or cater to universal usability designs that can accommodate a diverse range of users (i.e., age, language, technological understanding) and a spectrum of design rules so that all users can understand the design and information conveyed [26].

Data Collection

Two methods were used to collect data, namely questionnaires and in-depth interviews. The two processes complement each other to more deeply understand the general and specific needs of users. Questionnaires on user needs and experiences of the OCTO Friends application, including the SUS with types and compositions (see Table 4), were distributed to potential participants via email blasts and push notifications.

Table 4. Types and Composition of Questionnaire Questions

No.	Question Type	Number of Questions	%
1	General information of respondents/users	6 items	18%
2	User experience questionnaire	17 items	52%
3	System Usability Scale (SUS)	10 items	30%

After distributing the questionnaires, 10 respondents were selected to participate in the interviews so as to gain greater insights into their needs and experiences in using the app. A total of 6 task scenarios were performed by the 10 respondents representing OCTO Friends member personas. Differences in background and age were used to further explore user needs and the appropriate recommendations to meet them.

C. Results and Discussion

104 respondents completed the questionnaire and all of them met the (valid) criteria for further analysis. Upon completing the questionnaire, the respondents later conducted usability testing directly.

Respondent Demographics

In terms of the age distribution of the respondents who completed the questionnaire, the largest proportion (47.1%) were aged between 26–35, followed by those over 40 (26.9%), and those between 36–40 (16.3%). 8.7% of the respondents were aged between 18–25, and only 1% were below the age of 18.

This shows that OCTO Friends members are dominated by those aged 26–40 and above.

Moreover, the majority of the respondents were private employees (86.5%). The self-employed accounted for 4.8% of the total, other (e.g., freelance) by 3.8%, students by 2.9%, and housewives and pensioners accounted for 1% of the total respondents (Figure 5).

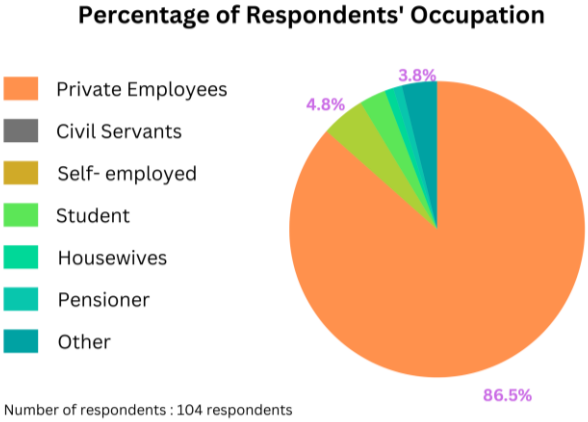

Figure 5. Respondents' Occupations

Further questions regarding how long respondents had been customers of Bank CIMB Niaga and OCTO Friends members were also asked to better understand their eligibility for completing the questionnaire and understanding Bank CIMB Niaga and OCTO Friends to forward further questions. The majority of respondents had been customers for 1 to 5 years (37.5%), followed by over 10 years (25%). In addition, 12.5% had been customers for less than 1 year, and 6.7% were not customers at all.

Based on the results of the questionnaire, 65.4% of OCTO Friends members out of a total of 104 respondents had joined for over 6 months, while the remaining 34.6% joined OCTO Friends for less than 6 months. Thus, a greater proportion of respondents had been members for over 6 months.

User Experience Overview

In terms of their experiences as OCTO Friends application users, 75% of respondents had made referrals, 39.4% of whom had done so between 1–3 times, and 35.6% over 3 times. The remaining 23.1% had never made a referral and 1.9% of respondents did not remember having ever done so. This shows that the overwhelming number of respondents had experience in giving referrals.

Next, the reason behind the application's use was determined. The respondents used the OCTO Friends application to get additional income (incentives) from referrals was cited as the main reason. Furthermore, the reason for making it easy for referrals to get Bank CIMB Niaga products was the second reason that was widely chosen and relevant to the respondents. There were several other reasons, such as the large and attractive incentives obtained. Furthermore, based on user experience and feedback (the respondents could choose more than one), the following items are required in the referral application:

- Information about referral progress (70 votes)
- Product and application information (69 votes)
- Ease in completing referral input data (65 votes)
- Clear Service Level Agreement (SLA) information (65 votes)
- Ease in completing referral incentive (60 votes)
- Ease in following up referral (54 votes), and
- Need for rules clarification for referrals and those who are not eligible for incentives or minimum tenure.

Regarding the product information referenced on the OCTO Friends application, 80 respondents stated that this must be listed in the application so as to facilitate a complete understanding of the product information. This is important to know because, currently, OCTO Friends members know more product information that will be referenced by the majority through the CIMB Niaga website and social media, branch offices, and services 14041/1500800.

Furthermore, based on the respondents' experience, the OCTO Friends application obtained an average rating of 7.59 from a scale of 1–10. This can be seen in Table 5 where, from a total of 104 respondents, 35 gave the application a rating of 8, 17 respondents rated it 10, 17 other respondents gave a rating of 7, and 10 respondents gave a rating of 6. However, it should be noted that 12 respondents gave low ratings of between 1 and 5.

Table 5. User Rating on OCTO Friends Experience

How was your experience using OCTO Friends? (Rating 1–10)											**Total**	**Average**
Rating	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**		
Number of Respondents	2	0	4	1	5	10	17	35	13	17	104	7,59

Regarding user experience and satisfaction, the Net Promotor Score (NPS) obtained for the OCTO Friends application was 17. This means that more respondents as promoters recommended the application compared to detractors (who did not recommend). This NPS score indicates that respondents would like to recommend the use the OCTO Friends app as a referral application (Figure 6).

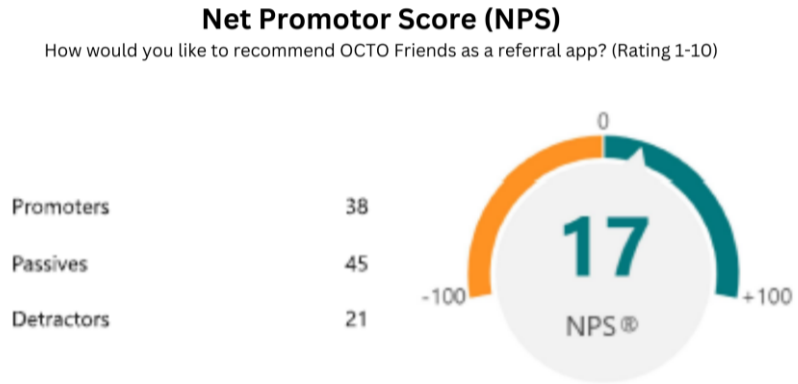

Figure 6. Net Promotor Score (NPS)

User Needs

Based on feedback from open-ended questions submitted by 104 respondents, a list of 25 user needs or requirements was generated. At the end of analysis, a summary of user needs/requirements (based on the questionnaires and in-depth interviews), including solution mapping, was created.

SUS Score

From a further analysis of the usability assessment, the overall SUS score for the OCTO Friends app was 66 (Table 7).

Table 7. Summary of SUS Score 104 Respondents

Respondent	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q 10	SUS Raw Score	SUS Final Score
R1	4	2	4	2	3	3	4	2	4	4	26	65
R2	3	3	3	4	4	4	4	4	4	4	19	48
R3	4	2	4	4	4	2	3	2	4	4	25	63
R4	4	2	4	2	4	2	4	2	4	4	28	70
R5	4	2	4	2	5	3	4	3	5	4	28	70
R6	4	2	4	1	4	2	4	1	4	4	30	75
R7	4	1	5	4	5	1	5	1	5	5	32	80
R8	4	2	4	2	4	2	4	2	2	2	28	70
R9	4	2	4	4	4	2	3	2	5	4	26	65
R10	3	4	3	2	4	4	4	3	4	3	22	55
…	…	…	…	…	…	…	…	…	…	…	…	…
R104	4	1	5	1	4	3	4	2	5	4	31	78
Avg.	**4**	**2**	**4**	**2**	**4**	**3**	**4**	**2**	**4**	**3**	**26**	**66**

Based on the SUS score range in Table 8 [27], a score of 66 can be considered favorable, but in need of some improvement. Further analyses of aspects or parts that were either already good or in need of improvement were thus conducted.

Table 8. SUS Score Range

SUS Score Range	Grade	Percentile
84.1–100	A+	96–100
80.8–84.0	A	90–95
78.9–80.7	A-	85–89
77.2–78.8	B+	80–84
74.1–77.1	B	70–79
72.6–74.0	B-	65–69
71.1–72.5	C+	60–64
65.0–71.0	C	41–59
62.7–64.9	C-	35–40
51.7–62.6	D	15–34
0.0–51.6	F	0–14

In line with the user needs questionnaire and SUS assessment, further analysis through contextual (in-depth) interviews was conducted with 10

respondents, who represented the characteristics of OCTO Friends members. This was done so as to confirm and complete input and recommendation steps that should be taken. Persona and respondent details can be seen in Table 9.

Table 9. Persona and Respondent Details

No.	Persona	Respondent Details	Code
1	Private sector employee	Private Employee and as a Young Family	R1
		Private Employee and as an Established Family	R2
		Private Employee and Digital Enthusiast	R3
		Private Employee and Financial Enthusiast	R4
2	Entrepreneurs/ Freelancer	Freelancer with Unit Head Work Experience	R5
		Food and Catering Entrepreneur	R6
		Freelancer and Content Creator	R7
3	Student	Student and Intern	R8
		Student and Active in community	R9
		Fresh Graduate and Digital Enthusiast	R10

Usability Testing

These six scenarios were completed by 10 respondents and were based on the primary purpose of OCTO Friends. Table 10 lists the codes assigned to each usability testing scenario, ranging from UT-1 to UT-6.

Table 10. Usability Testing Scenario

No.	Main Functions	Scenario	Success Indicator	Code
1	Login	Please log in and go to the homepage	Successfully log in to the application and enter the homepage	UT-1
2	Add Referral – Savings Products	Please carry out the process of inputting referral data for Savings products until finish	Complete inputting referral data until submit referral and understand the procedures	UT-2
3	Add Referral – Credit Card	Please carry out the process of inputting referral data for Credit Card products until you finish	Complete inputting referral data until submit referral and understand the procedures	UT-3
4	Status/ referral progress	You have successfully entered referral data and want to carry out the process of checking the referral status or progress	Find the function to check the status or progress/referral details and understand each function and information listed on the referral detail page	UT-4
5	Referral Follow-up	At this time, you will follow up the referral to the call center team to ensure the referral process is running and there is clarity on status	Successfully found a way to follow up referrals to the call center team and carry out the follow up process in the application	UT-5
6	Incentive Information	After the referral process is complete, you want to check the incentive information	Successfully found the function and checked the status of incentive information	UT-6

Result of Usability Testing

Based on the implementation of usability testing conducted by 10 respondents, a detailed summary of their testing times is presented in Table 11. Details of usability testing time were analyzed using conditional formatting in Microsoft Excel, which showed that the greener the box, respondents completed the scenario more quickly.

Table 11. Detailed Summary of Respondents' Usability Testing Times

Respondent	Scenario					
	Login (UT-1)	Input referral data		Status/ referral progress (UT-4)	Referral Follow-up (UT-5)	Incentive Information (UT-6)
		Savings (UT-2)	Credit Card (UT-3)			
R1	00:00:20	00:01:40	00:03:00	00:00:12	00:04:27	00:00:13
R2	00:00:25	00:02:36	00:01:25	00:00:16	00:02:14	00:00:53
R3	00:00:27	00:01:18	00:00:46	00:00:09	00:00:12	00:00:07
R4	00:00:17	00:01:51	00:01:06	00:00:17	00:00:08	00:00:06
R5	00:00:40	00:01:00	00:01:00	00:00:09	00:00:40	00:00:14
R6	00:00:39	00:01:54	00:01:22	00:00:07	00:02:13	00:01:38
R7	00:00:21	00:01:39	00:00:51	00:00:15	00:00:28	00:00:13
R8	00:00:37	00:01:44	00:01:12	00:00:45	00:00:11	00:00:14
R9	00:00:25	00:01:39	00:01:00	00:00:06	00:00:03	00:00:12
R10	00:00:13	00:01:49	00:00:45	00:00:45	00:00:11	00:00:05
Avg. time	00:00:26	00:01:43	00:01:15	00:00:18	00:01:05	00:00:23

Furthermore, from these results, it can be seen that all respondents completed all scenarios, except for the 'Add Credit Card Referral' scenario, which was hampered by 'bugs' and maintenance in the credit card product application during usability testing. This obstacle caused the respondents to think that the app requires improvements, as adding credit card referrals is highly important for loan products.

User Needs and Solution Design Improvement

25 user needs based on questionnaires and 24 user needs based on in-depth interviews were mapped to solutions and recommendations for improvement. From these needs, 46 improvement solutions were identified. These improvement solutions were categorized into six usability testing scenarios and other important categories. Then, all user needs were summarized in the main improvement solutions and problem answers to Shneiderman's Eight Golden Rules of Interface Design to be implemented in a high-fidelity prototype for recommended design improvements for OCTO Friends (Table 12).

Table 12. Summary of Major Repair Solutions and Problem Answers

Main Functions	Main Solutions Improvements	Shneiderman's Eight Golden Rules of Interface Design	Answers to Problems and User Needs
Login	1. Add fingerprint feature 2. Activate 'Remind Me' for no. hand phone and password	1. Reduce short-term memory load 2. Reduce short-term memory load	Minimizes bounce backs (not entering the application) and forgotten passwords so that it can make logging in easier
Homepage	1. Add 'Product Information' to the homepage 2. Add floating text labels to the navigation bar 3. Change the list icon and label to 'Referral List'	1. Offer informative feedback 2. Support internal locus of control 3. Support internal locus of control	Users can more easily get product information offered in the application (no need to change channels)
Input referral data	1. Add floating text and hover 'Add Referral' 2. Distinguish between active (maroon) and non-active (grey) product colors 3. Terms & Conditions in the Member Agreement automatically appear 4. Change of 'Facility' name to 'Product Choice'	1. Reduce short-term memory load 2. Strive for consistency 3. Permit easy reversal of actions 4. Cater to universal usability	Users understand directly how to provide referrals and are self-explanatory
Detail progress referral	1. Addition of Service Level Agreement (SLA) information 2. Real-time updates	1. Offer informative feedback 2. Offer informative feedback	Clarity of referral status has been provided to minimize user complaints
Referral Follow-up	1. Add 'Contact Us' function (call and chat) to each referral detail to make follow up easier 2. 'Call Center' feature shortcut in the navigation bar 3. Pre-define follow up templates via the 'Contact Us' (Chat) feature 4. 'Ask Status' can be found on each referral detail	1. Design dialogs to yield closure 2. Design dialogs to yield closure 3. Design dialogs to yield closure 4. Design dialogs to yield closure	1. Status follow-up has been made easier with the Contact Us function via the call and chat features 2. Seamless follow up status, because it is included in every Referral Detail
Incentive	1. Progress information and incentive distribution 2. More flexible choice of month and year for incentive status	1. Offer informative feedback 2. Cater to universal usability	Clarity of the status of incentives which previously did not have any information in the application
Notification	Real-time notification (apps, WhatsApp, and email)	Cater to universal usability	Clarity of information through a multi-channel approach, so that users do not miss referral status information
Interface / Experience	Use of self-explanatory icons	Cater to universal usability	More user friendly

The summary of the main improvement solutions and answers to the problems presented above can minimize the main issues relating to the app's use regarding incoming referrals. Furthermore, with the improvements, it is hoped that users will be able to more easily make referrals (increase incoming referrals) and be more active in using the application, because the entire referral process—starting from adding referral data, follow-up status, to incentive information—can be done directly in the same application.

D. Conclusion

This study used 8 research stages, namely the process of problem identification, literature review, preparation of research instruments, distribution of user needs questionnaires, in-depth interviews and usability testing, data processing and analysis, validation and formulating improved designs, and designing interface improvements to reach conclusions and suggestions.

This study employed a mixed-methods approach, combing aspects of both quantitative and qualitative research. Data were collected through user needs questionnaires, including questions regarding the SUS and open-ended questions concerning user constraints and needs. Moreover, further analyses were conducted using such qualitative methods as in-depth interviews and usability testing scenarios of the main features of the OCTO Friends application.

The user needs questionnaire and the SUS scale resulted in a score of 66 from the respondents. Based on these values, there needs to be improvements to the application to increase usability and design performance in accordance with user needs. Additionally, 10 respondents representing OCTO Friends members were selected to participate in in-depth interviews and conduct 6 usability testing scenarios. Scenarios based on the main features included Login, Input Savings Referral Data, Input Credit Card Referral Data, Check Referral Progress Status, Follow up Referrals to the OCTO Friends team, and Check Incentive Information.

Ultimately, 46 improvement solutions were obtained, which were mapped according to user needs and the principles of Shneiderman's Eight Golden Rules of Interface Design. Recommendations for interface design improvements based on a list of user needs were implemented in a high-fidelity prototype designed with the aim of providing solutions to needs and making it easier use the OCTO Friends application.

Implications

To the best of the authors' knowledge, this research is the first to focus on banking product referral applications, specifically OCTO Friends, a referral application of Bank CIMB Niaga. The study used a combination of quantitative and qualitative methods, including user needs questionnaires and in-depth interviews, to evaluate the usability of the application. The research also uses Shneiderman's eight golden rules of interface design mapping and the User-Centered Design (UCD) approach to explain and influence decisions on improvement design solutions.

The research has practical implications, as it can help identify user difficulties and corrective steps for the OCTO Friends application development team. Based on usability testing, 49 user needs and 46 improvement solutions were identified,

particularly on the main features of the application. It is hoped that these changes will improve the functionality and make the application more user-friendly. The results of this research could be used as recommendation material for improving the user interface and experience in future versions, making it crucial for recommending strategies for case studies and direct application development.

Future Works

Research regarding evaluating the usability of referral applications, both in the banking and financial services industry and other industries, can be further developed. Moreover, regular evaluations in terms of business processes, functionality, and user satisfaction to complement usability could be further so as to gain more complete insights in order to make input from the user side more comprehensive.

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