

## **Comparison of acceptance of midwives lecturers in urban and Sub-urban regions to android-based try-out Competence test applications**

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### **Abstract**

The purpose of this study was to determine the differences in the acceptance of midwifery lecturers in urban and sub-urban areas to the Android-based try-out competency test application and conduct a feasibility validation test for this application. The method used in this study was a combination of Research and Development (R&D) and Intervention research. Sampling was done by purposive sampling technique with a total sample of 24 namely 13 samples at Megarezky University (urban) and 11 samples at Stikes Husada Mandiri Poso (sub-urban). The data were analyzed using statistical analysis, the Shapiro Wilk and Mann-Whitney test. The results showed that media experts' average validation test results were 84.44%, and the material expert validation results averaged 84.52%, indicating that the Android-based try-out competency test application was feasible to use. User validity of media experts and material experts using the TAM (Technology Acceptance Model) questionnaire. The result shows that from the Megarezky Makassar University in the urban area, which involved 13 samples, the very good category was 10 people (76.9%) and in the good category was 3 people (23.1%); the Stikes Husada Mandiri Poso Institution in the sub-urban area, which involved 11 people, the very good category was 6 people (54.5%) and the good category was 5 people (45.5%) ( $p=0.181$ ). The conclusion of this study is no significant difference in the acceptance of midwifery lecturers in urban and sub-urban areas to use the Android-based try-out application with the average acceptance result in the very good category.

**Keywords:** Android-Based Try-Out Competence Application, Eligibility, Acceptance, Midwifery lecturers

## INTRODUCTION

The Covid-19 pandemic or Coronavirus Disease 2019 has shocked countries in various parts of the world in 2020, one of these countries is Indonesia. Indonesia is under pressure due to the Covid-19 disaster. Threats that occur result in disrupting activities from all sectors of life, especially in the education sector (Andrianto Pangondian et al., 2019), educational institutions that organize competency test activities for students. The competency test (known as UKOM in Indonesia) measures the ability and behavior of students at universities that provide higher education in the health sector (Ni Wayan Sukma Adnyani, 2021). Currently, Indonesia National UKOM uses a computer-based test (CBT) system, where participants work on one hundred and eighty multiple-choice questions in one hundred and eighty minutes. Furthermore, many strategies have emerged to prepare health workers to face UKOM; one of the strategies is conducting the try-out method (Wigutomo Gozali, 2021).

Try out is a mechanism used as an exercise for students before carrying out the actual exam (Ahmad et al., 2017; Maulana et al., 2018). The try-out at UKOM midwifery is a mechanism that can facilitate midwifery students to obtain readiness and good passing grades. UKOM's try-out is usually held once a year nationally using the paper-based test method (Fitria et al., 2019).

The education in the Covid-19 pandemic era has been running for about a year and has been marked by inequality. Most educational institutions only interpret distance learning with online learning practices that have made one student and another in unequal conditions due to the unequal distribution of education services in rural and urban areas. The "study from home" policy has seriously impacted the learning process in response to the COVID-19 pandemic. Distance learning risks hampering and even stopping the learning process in remote areas due to limited internet access, making it difficult to continue the teaching and learning process. It can potentially increase the disparity or inequality of education in Indonesia (Handayani et al., 2020; Siska, 2021).

The uneven development and spread of ICT in society have led to a digital divide. The results of a survey conducted by APJII in 2017 found that internet user penetration among rural communities only reached 48.25%; this figure is quite far compared to internet user penetration among urban communities, which reached 72.41% (Oktavianoor, 2003). 2020). The digital divide or digital divide is a problem that arises in society due to the uneven development of ICT (information and communication technology). This problem is often experienced by rural communities (rural communities) because urban communities (urban communities) first get the opportunity to feel the impact of ICT infrastructure development compared to rural communities. Ariyanti stated that the digital divide was caused by several factors, namely the skill factor and the inefficient use of the internet. A person's skill or ability to use technological devices is needed so that the presence of a computer and the availability of internet access can be utilized to the fullest. The utilization of technology is also an important component that can determine whether there is a digital divide within an area. Individual demographic conditions such as age, education level, and place of residence influence differences in the use of information technology (Oktavianoor, 2020).

Changes in teaching patterns using technology and distance learning require the ability to master technology for both lecturers and students. At the very least, lecturers must be able to take advantage of available channels, such as the Learning Management System, audio-video-based communication media, social media, and data storage media that can be used to assist quality teaching and learning activities (Adiawaty, 2020; Fitria et al., 2019).

The readiness of lecturers to carry out online learning is one of the main factors in supporting the learning process; it requires initiative and responsibility to set learning goals and identify the needs and personal responsibilities in conducting online learning. When the learning process shifts from face to face to online, there are many new things that lecturers must learn in teaching activities, such as operating new software and making digital teaching materials as well as applications to support the learning process mediated by technology (Saragih, Teddy Markus, Peter Ryan, 2021).

In this era of globalization, there are many kinds of learning media and the development of science and technology. Every educational institution must be sensitive to these developments and make many innovations to the learning media used so as not to be left behind existing technological advances. Except understanding their use, educators should also strive to develop the skills of "making their own" media that are attractive, inexpensive, and efficient by not denying the possibility of using modern tools that are following the demands of the development of science and technology (Cooper, 2009; Herman & Aristiawan, 2019; Ibrahim, 2016; Lavender et al., 2013; Muyaroah & Fajartia, 2017).

According to the description above, it is considered important to see the readiness of lecturers to accept the development of information technology in the learning process during the pandemic period, which was tested using the BINIUS application, so that it can be seen whether there are differences in the level of acceptance of lecturers in urban areas and lecturers in rural areas to the Android-Based Application.

Based on the description above, we developed an Android-based try-out competency test application (BINIUS); adding and updating material on several menus; then compared the acceptance rate of midwifery lecturers in Urban dan Rural sub-urban and urban areas to the Android-based try-out competence test application.

## **Methods**

The method used in this study was to combine Research and Development (R&D) and Intervention research using a one-group test design. The R&D method began with a needs analysis through field studies and literature studies. Then, the initial product development was carried out: product design, material development, and compiling instruments. After the initial product was created, validation was carried out by media and material experts and 10 midwifery lecturers as users to assess the feasibility of the application. Furthermore, a comparative assessment or level of difference in user acceptance of applications involving midwifery lecturers was carried out. It was carried out by purposive sampling technique with a total sample of 24 samples namely 13 samples at Megarezky University (urban) and 11 samples at Stikes Husada Mandiri Poso (sub-urban). The measuring instrument to assess the

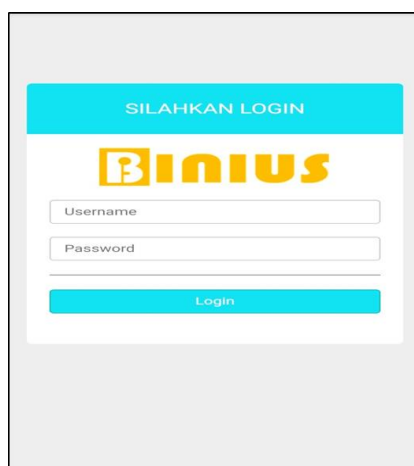
application's feasibility and the application's acceptance was using the TAM questionnaire. The data were analyzed using statistical analysis, the Shapiro Wilk and Mann-Whitney test. This research was conducted at Megarezky University Makassar, South Sulawesi, as an Urban site; Stikes Husada Mandiri Poso, Central Sulawesi, as a Sub-Urban site; during November-December 2021.

## Result

### Early product development

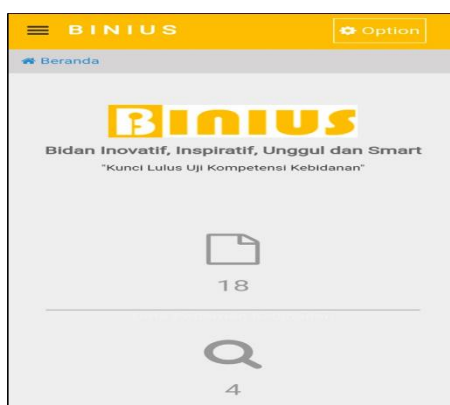
The application's initial design consisted of a student menu to view the student try-out competency exam, a teaching materials menu to enter the data for the midwifery try-out competency guideline, teaching materials, and included assignments and research instruments.

The following are the features of the development results contained in the Android-based try-out competency test media:



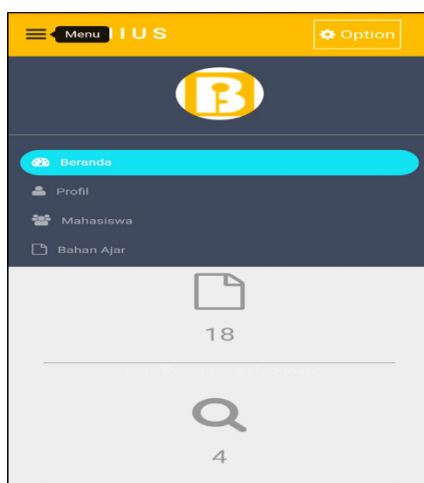
**Figure 1. Display of the main page or login page**

On the initial screen or main page, there was a login menu. For lecturers, creating a user should be created by the admin. Furthermore, after having an account, the lecturer could return to the main menu to log in by entering the user and password.



**Figure 2. Main Menu Display**

After successfully logging in, the BINIUS menu would then appear. The user would see the amount of data entered in each menu in this display.

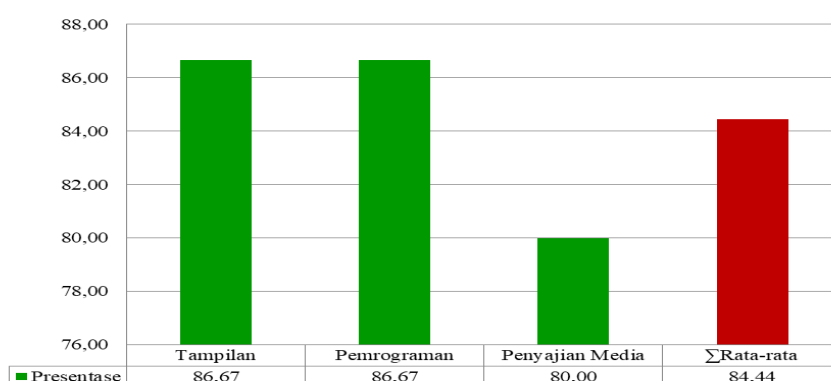


**Figure 3. Lecturer Menu Display**

On the lecturer user, there were several menus, namely the homepage, profile, student menu, and teaching materials. On the menu, it looks like the main menu display; on the profile menu, the user could change the profile data; On the student menu, the user could see the results of the student try-out exam; on the teaching materials menu, the user can enter data on the midwifery competency try-out guideline and teaching materials. and include assignments given to students. Thus, the students got easier to prepare before learning activities began because students already had material as an illustration that lecturers or educators would teach.

**Validity test**

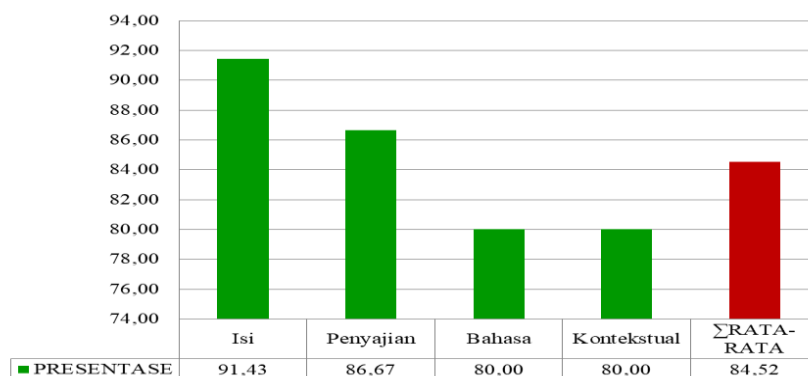
Media expert validation results



**Figure 4. Media expert validation**

The results of the media expert validation showed that of the three components, an average value of 84.44% was obtained in the proper category (Figure 4).

### Material expert validation results

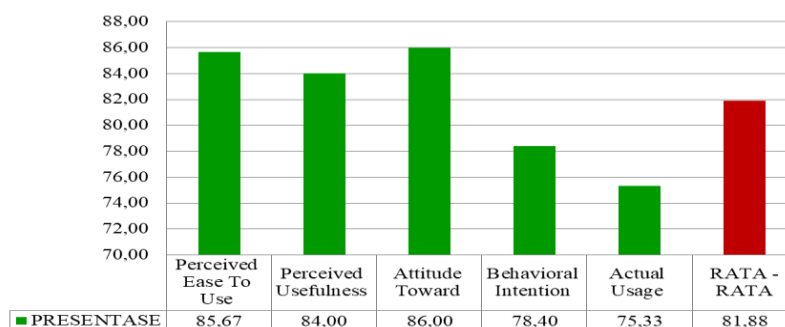


**Figure 5. Validation of material experts**

The results of material expert validation show that of the four components, an average value of 84.52% was obtained in the appropriate category (Figure 5).

### Validation of educators

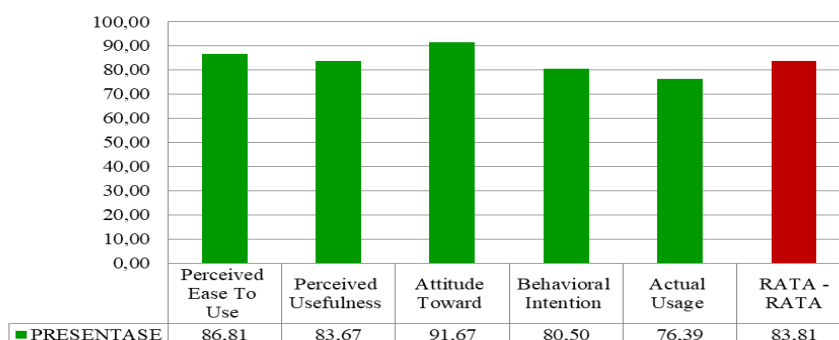
#### Small group trial



**Figure 6. Large group test results**

The results of media expert validation showed that of the five components, an average value of 81.88% was obtained with a decent category (Figure 6).

#### Large group trial



**Figure 7. Large group test results**

The results of media expert validation show that of the five components, an average value of 83.81% was obtained in the proper category.

#### Results of Analysis of Differences in Lecturer Acceptance

Table 1. Analysis of Differences in Lecturer Acceptance

|                          | Results |
|--------------------------|---------|
| Mann-Whitney U           | 48.500  |
| Wlcoxon W                | 114.500 |
| Z                        | -1.338  |
| Asymp.Sig.(2-tailed)     | .181    |
| Exact Sig.(1-tailed Sig) | .186    |
| Mann-Whitney U***        |         |

The results of the analysis of differences in lecturer acceptance show that the Asymp.Sig.(2-tailed) column was 0.181, or the probability was above ( $0/181 > 0.05$ ). It means no difference in accepting midwifery lecturers in urban and sub-urban areas to the android-based competency test application.

Table 2. Comparison of urban and sub-urban revenues

| Rating       | Urban |      | Sub-Urban |      | P-Value |
|--------------|-------|------|-----------|------|---------|
|              | f     | %    | f         | %    |         |
| Very good    | 10    | 76.9 | 6         | 54.5 | 0.181   |
| Good         | 3     | 23.1 | 5         | 45.5 |         |
| Not good     | 0     | 0    | 0         | 0    |         |
| Not good     | 0     | 0    | 0         | 0    |         |
| <b>Total</b> | 13    | 100  | 11        | 100  |         |

Table 2 shows the percentage of acceptance comparisons between lecturers at the Megarezky University (Urban site) and Stikes Husada Mandiri (Sub-urban site) to the Android-based try-out application. The assessment from the Megarezky University were the results of the assessment of 13 samples: the very good category was 10 people (76.9%), in the good category was 3 people (23.1%); The Stikes Husada Mandiri Poso was involved 11 people: for the very good category was 6 people (54.5%), in the good category was 5 people (45.5%). The comparison analysis of both was found a P-Value of 0.181 ( $> 0.05$ ). It can be interpreted that there was no significant difference in the acceptance of lecturers in urban and sub-urban areas towards the use of the android-based try-out application (BINIUS), with the average acceptance results in a very good category.

#### Discussion

Based on the table of validation test results from media experts, material experts, and validation of educators, the Android-based competency test try-out application is considered suitable for use to provide flexibility and convenience for educators in providing assignments

and teaching materials taught. Many previous studies have begun to design and make new innovations in the field of education, especially learning media for health students, which are designed in the form of mobile versions of android and web with the aim of the flexibility of students in carrying out learning activities (Augustine & Sulandjari, 2021). Assessment of small-scale field trials of applications with Technology Acceptance Model (TAM) components includes perceived ease to use, perceived usefulness, attitude toward, behavioral intention, actual usage with proper categories. Several studies state that user acceptance of information technology innovation is carried out by analyzing the Technology Acceptance Model (TAM) because to use of a new information system can be influenced by perceptions of whether a system will be valuable and easy to use (Ammenwerth, 2019; Irawati et al., 2020). This is supported by several studies which show that from the results of the study entitled the Android-based postpartum mother pocketbook application, it is an information medium that is easy to carry and read because it is installed on an Android-based smartphone that is easy to carry anywhere (Isti Handayani and Kusri, 2015). the results of research conducted by Kautsar Qadry showed that the results of the assessment of student responses to the level of practicality of learning media were in the practical category, based on the test results of students' Android-based word square learning media were in the practically easy category (Kahar, 2019).

Statistical tests on the differences in acceptance of the Android-based try-out application obtained the results of the Shapiro Wilk test with a p-value of 0.004 ( $<0.05$ ), which indicates that the data was not normally distributed. Then, the Mann-Whitney test was carried out, which was the result of the significance test on acquiring the Asymp.Sig. (2-tailed) value of 0.181, or the above probability ( $0/181 > 0.05$ ). It indicates no difference in acceptance of midwifery lecturers in urban and sub-urban areas to the Android-based try-out competency test application. This is in line with the research conducted by Suci Rahma Dani Rachman with the title Virtual Classroom Application Research as an Android-Based Learning Media in the Urban and Sub-urban Regional Midwifery associate degree (Diploma III) with the results of the Sig Value research or a P-Value of 0.823 ( $>0.05$ ), there is no significant difference in independence between the urban and sub-urban intervention groups (Rachman et al., 2020).

### **Conclusion**

This android-based try-out competency test application is feasible to use and can provide educators with assignments and teaching materials being taught. Based on statistical tests, there was no difference in the acceptance of midwifery lecturers in urban and sub-urban areas to the Android-based try-out competency test application.

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