

# Application of Android-Based Mobile E-Commerce Applications in Ornamental Plants

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## ABSTRACT

During the pandemic, various cities in Indonesia experienced an increasing trend of growing ornamental plants in various circles, and not a few were using ornamental plants to increase their income, but difficulties in reaching market segmentation caused the ornamental plant business to develop a little slower. E-Commerce is one of the business media to expand marketing reach and innovate in the business world using adequate technology. The aims of this study are (1) to utilize an Android-based E-Commerce mobile application as a medium to expand the marketing of ornamental plant businesses, and (2) to determine the effect of e-commerce on products and consumer trust. The method of developing an Android-based E-Commerce mobile application using ADDIE consists of (1) Analysis, (2) Design, (3) Development, (4) Implementation, (5) Evaluation. This research produces an Android-based E-Commerce mobile application (AdmireYou) which contains various kinds of ornamental plants, and ornamental plant shelves, and a survey of the effectiveness of the Android-based E-Commerce mobile application. E-Commerce media is very useful for the founders of ornamental plant businesses who make the business grow more rapidly.

**Keywords**— *E-Commerce, AdmireYou, ADDIE.*

## 1. INTRODUCTION

Indonesia is one of the countries with the largest population in the world. This situation is not entirely troublesome for the State, this situation can provide great benefits for Indonesia. One of them is that the State of Indonesia is a potential market for the world of business and trade. According to [1] [2], This statement can be proven by the many commercial companies that exist throughout Indonesia, competing for market share to manage their respective business strategies, one of which is by utilizing IT because technology is developing so fast in Indonesia, and this is the time for companies and business pioneers to take advantage of the current technology to develop and promote their business optimally to support various business activities.

Indonesia is a repository of biodiversity in the world which is a source of community life and as a state asset, so in carrying out development activities it is necessary to pay attention to the protection, preservation, and sustainable use of these resources.

Recently, horticultural crops have received great attention from the government. It is proven that horticultural crops are included in the food crops sub-sector so that currently there are food crops and horticulture sub-sectors. Horticultural crops have received great attention because they have proven themselves as commodities that can be used as new sources of growth in the agricultural sector [3] [4]. Ornamental plants are a combination of various types of horticultural plants whose parts or whole can be used to create beauty, beauty, and comfort in closed or open spaces. Ornamental plants, especially those with green and red flowers, can make people feel calm and full of love [5]. Floriculture plants are one of the horticultural commodities that have high economic value and have very bright prospects as leading export commodities as well as for domestic marketing.

The function of ornamental plants is to cool the soul. and environmental conservation. Ornamental plants emit oxygen (O<sub>2</sub>) which is needed by humans for respiration. Besides, ornamental plants absorb carbon dioxide (CO<sub>2</sub>) which is not needed by living things, including humans. Ornamental plants can act as environmental lungs, namely giving clean air and cleaning dirty air. With so many ornamental plants, the air

becomes cleaner and fresher and protects from the scorching heat of the sun [5] [6].

Ornamental plant business activities are developing in various regions in Indonesia and play an important role in becoming a center of economic growth. At present, ornamental plant business activities are carried out commercially which can drive the growth of the goods and services industry. The development of ornamental plant business activities in the country is related to increasing consumer income, demands for environmental beauty, development of the tourism industry, construction of housing complexes, hotels, and offices. With the growing use of ornamental plants, domestic market demand in recent years has increased quite sharply, causing the ornamental plant production sector in various regions to be more active and view this as an opportunity to meet consumer needs. To increase the percentage value of ornamental plants in the national economy, it is necessary to improve cultivation through the application of innovative technology, strengthening institutions, increasing access to capital, and developing production center areas. This step is expected to increase production capacity which in turn can meet export needs. Promotion of ornamental plant exports needs to be carried out to increase the country's foreign exchange which is useful for restoring national economic conditions [7].

With the growing use of ornamental plants, domestic market demand in recent years has increased quite sharply, causing the ornamental plant production sector in various regions to be more active and view this as an opportunity to meet consumer needs. A large number of existing ornamental plant business activities causes the marketing competition for ornamental plants to be more stringent and becomes a trigger in producing a good performance to win the competition that occurs [8] [9].

The development of the internet is now widely used in various circles, among others, offices, schools, businesses, and other businesses. E-commerce provides a huge market opportunity. Especially for SMEs who wish to market their products globally, and can also be used as information containing advertisements as well as displaying products needed by customers to get information about the products they produce [2].

E-commerce can be used as a source of information to compare prices or see the latest products on offer, before purchasing at an online store. E-Commerce has become an important marketing strategy for ornamental plant entrepreneurs because it is part of the way companies communicate and relates to buyers or consumers [10] [11]. Android-based E-Commerce mobile application is one of the efforts to increase marketing and expand business [12]. The application of an Android-based E-Commerce mobile application is an online marketing concept carried out by ornamental plant business pioneers to expand their reach and build one's identity into a digital platform [13]. Therefore, an Android-based E-Commerce mobile application was created, namely AdmireYou. E-commerce (AdmireYou) in addition to being an online shopping media can also be used well as a digital marketing medium.

## 2. METHOD

The selection of a good development model will produce an effective and efficient product. The right choice of development model will produce the right product. One of the characteristics of the accuracy of the product developed is that the product can be applied properly and provides benefits for its users. In addition, the results of developing a good Android-based E-Commerce mobile application can facilitate the ornamental plant business that is occupied.

The method to be used for Android-based E-Commerce mobile application development is ADDIE. The ADDIE model is a colloquial term used to describe a systematic approach. ADDIE is an abbreviation that refers to the main processes of the Research and Development (RnD)-based system development process consisting of 5 abbreviations (1) Analysis (Analysis), (2) Design (Design), (3) Development (Development), (4) Implementation, (5) Evaluation [14].

Some of the reasons for choosing the ADDIE method are:

- The ADDIE model is a model that provides opportunities for continuous evaluation and revision in every phase that is passed. So that the resulting product becomes a valid and reliable product.
- The ADDIE model is very simple but its implementation is systematic.



**Figure 1.** ADDIE model chart

Furthermore, to develop media, flow diagrams need to be made by work assignments. Figure 2 is a flowchart in the development of augmented reality-based media

The object of research is the AdmireYourPlants android-based e-commerce application as a marketing medium to increase product reach in the wider community. The research questions (RQ) which are adjusted by the topic of this research are:

- RQ1. How does Admireyourplants' Android-based app look like?
- RQ2. How AdmireYou application usage model when purchasing goods?
- RQ3. How does App trust affect consumers?

## 2.1. ADDIE Method Process

The ADDIE model is a systematic development model design and consists of 5 stages covering the design of the entire process systematically.

### 2.1.1. Analyze Phase (Analysis)

The analysis phase usually includes the implementation of needs analysis, problem identification, and formulating goals. In the analysis stage, the developer identifies the gap between the current state of development such as knowledge, skills, and behavior, and the desired outcome. Objectives, experiences, and how these can be utilized in the development process. At this stage, an analysis of the objectives is carried out according to the needs achieved.

The analysis stage is a process that will define what the developer will learn, so to find out or determine what must be learned, we must know several activities, including conducting a needs analysis, identifying problems, analyzing, therefore, the outputs that will be produced. are several characteristics of developers, identification of gaps, identification of needs, and detailed analysis of tasks based on needs.

The analysis phase consists of 2 stages, namely: (1) job analysis (performance analysis) developing analyzing skills, knowledge, and motivation and (2) needs analysis (need analysis), in this step the developer analyzes existing needs and problems in the form of material that relevant and necessary information technology.

### 2.1.2. Design Stage (Design)

At the design stage, it consists of formulating general goals that can be measured, classifying pioneers of ornamental plant business, selecting activities, and selecting media. At the design stage, the developer plans product objectives, assessment processes, development activities, and information technology content. At this stage, namely designing an Android-based E-Commerce mobile application (AdmireYou) in such a way as to formulate general and specific development goals, then develop questions to measure the effectiveness of the media following what has been formulated, and finally develop an application socialization strategy. Android-based mobile E-Commerce (AdmireYou).

### 2.1.3. Development Phase (Development)

The development stage includes preparing materials for the manufacture of technology and tools following the specifications developed, namely the Android-based E-Commerce mobile application (AdmireYou). At this stage, the product produced is following the material and objectives to be achieved in this study, namely to create an Android-based E-Commerce mobile application called AdmireYou which is used by pioneers of ornamental plant businesses in developing their business.

### 2.1.4. Implementation Phase (Implementation)

The implementation phase includes the use of an Android-based E-Commerce mobile application development to be applied online in accordance with what was designed in the previous stage. At this stage, it begins with the creation of an

Android-based E-Commerce mobile application that is used to market ornamental plants and other products online.

### 2.1.5. Evaluation Stage (Evaluation)

At the evaluation stage, it is carried out by testing in a formative evaluation and then revised if necessary. Evaluation is carried out in a formative manner at each phase of development, then revisions are made to find out whether the product development is valid to be applied in online marketing. At the developer evaluation stage evaluate the products that have been implemented including the content of the Android-based E-Commerce mobile application (AdmireYou), the media developed, and evaluation of the effectiveness and success of the e-commerce application.

At this evaluation stage, the developer will also try to get feedback from the developer products produced through the media in the form of comments or ratings from visitors or consumers of this AdmireYou application. This android-based technology is expected to expand the marketing reach of the online ornamental plant business.

## 3. RESULT AND DISCUSSION

In this chapter, three main points are presented, namely: (1) the development of the AdmireYou mobile E-Commerce application in the information technology-based ornamental plant business using an android-based information technology integration model (2) data analysis, and (3) revision of the AdmireYou application development, analysis data and product revisions are presented as follows. The results of media expert validation of the Android-based AdmireYou application product, in the form of an E-Commerce mobile application. The development of Android-based AdmireYou E-Commerce is carried out using an android-based application usage model.

### 3.1. AdmireYou app display model

The model of using the application as a form of development in an Android-based ornamental plant business. The application was chosen based on consideration because it is more easily accepted by the community. The AdmireYou application can be easy to use because the operation method is not complicated and makes visitors and consumers comfortable with the application.

Accessibility is a major concern for users who will be interested and interested in downloading applications to be used as media to find out market prices and other information. The application can be installed on all android phones easily. So the right step to take is to test the appearance of the application in each of its menus.



Figure 2. Downloading an android-based application

The following is the initial appearance of the AdmireYou application when it has been downloaded.

### 3.1.1 Home

The display is made green because it is synonymous with life, besides that the green color is soothing to the eyes. The main design of Admire It could be made as simple as possible so that visitors and consumers are not confused by the design.



Figure 3. There is a browsing menu, transactions, and accounts

### 3.1.2 Our product

The products presented in the AdmireYou application are varied and not monotonous, not only ornamental plants but the application is also equipped with a plant rack to sweeten your room.

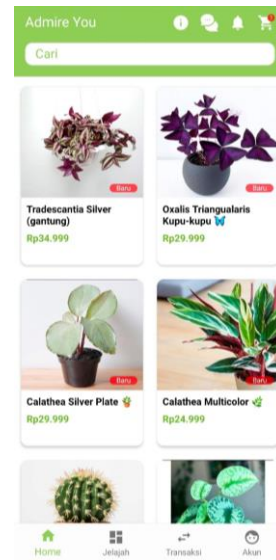


Figure 4. Our product

In each product there is information or description of each product, the display will be as below.

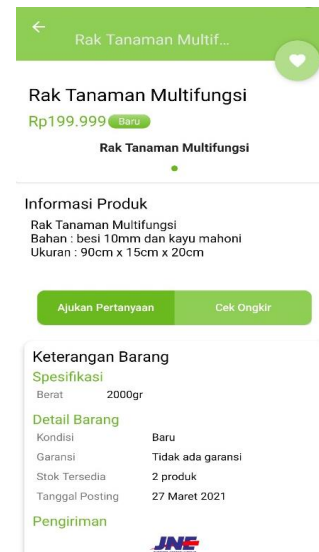


Figure 5. Description of each product

### 3.2. AdmireYou application usage model when purchasing goods

In the model of using E-Commerce in this study, researchers use mainstream applications as a means to share with online communities that are currently popular. Of the many existing E-Commerce, the development in this study uses an Android-based application media.

The application is easy to choose because it has many features, namely, business owners are freer to enter various products, provide complete information, determine delivery services, and many other features. So from these features, the application is considered capable of developing this ornamental plant business. Here's how to order a product:

- Select the product to buy
- Add to cart at the bottom
- After that click continue
- Fill in the complete address, and the order is ready

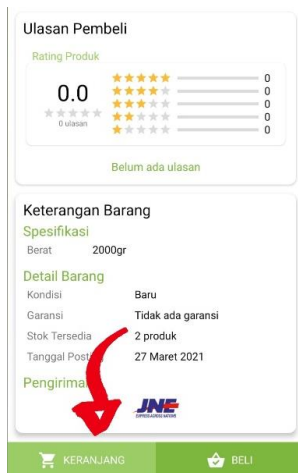


Figure 6. Select the product to buy

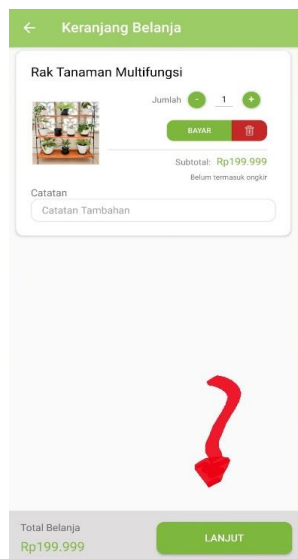


Figure 7. Select continue

In this 4.0 era, it is very easy to make an order on the AdmireYou app. This application is made to make it easier for sellers to market their products, and make it easier for buyers to get the desired product.

### 3.3. The influence of App trust for consumers

One of the important components to maintain good relations with consumers is to build good trust. Trust is an

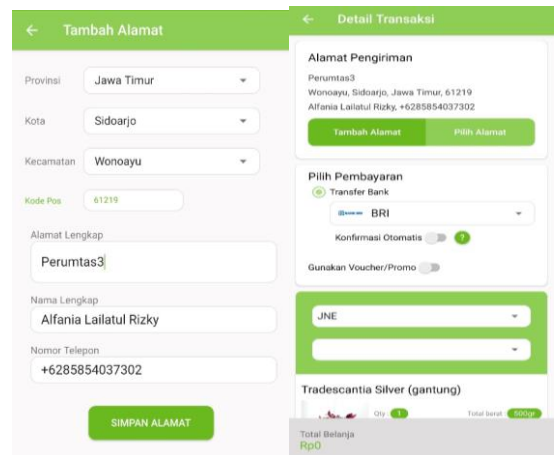


Figure 8. Complete address and the order is ready

indicator of a successful business in maintaining its market share. Consumer beliefs (consumer beliefs) are conveyed by consumers in the form of knowledge and giving conclusions about objects, attributes, and benefits. According to McKnight, suggests that consumer trust is built through two dimensions, namely: trusting belief and trusting intention. Trust has a positive contribution to customer satisfaction. then, the results of research conducted by Pamungkas, (2019), states that by building and increasing brand trust, consumer satisfaction will also be better. In addition, consumer trust is built along with satisfaction.

Consumers will be more loyal to the seller because they are treated well and the products offered are following consumer expectations. From the AdmireYou application, it can be seen from the ratings and comments of consumers after making a purchase, so that new consumers who want to buy do not doubt the AdmireYou application.

### 3.4. Tests and questionnaires

Testing this questionnaire was conducted to determine the extent to which the application was made to the respondents involved. The questionnaire was tested by students majoring in Management, Faculty of Economics and Business, class 2020A as many as 34 students.

Table 1. Testing Grid

No	Variable	Information
1	Understandability (Understood)	Capabilities in software that are easy for us to understand
2	Learnability (Learned)	Skills in software that are easy for us to learn
3	Operability (operated)	Capabilities in easy-to-operate software
4	Functionality (Function)	Capabilities in software that provide functional accuracy, security, appearance, and data management as they are used
5	Content (content)	The ability to define the truth, adequacy, suitability of the contents contained therein

**Table 2.** Eligibility Criteria

Information	Answer
Very good	81%-99%
Good	61%-80%
Ordinary	41%-60%
Not good	21%-40%
Very Not Good	0%-19%

**Table 3.** Questionnaire Results

No	Validation By	Results	Information
1	Class management student 2020 A	75%	Very good

The results of the questionnaire above can be concluded that the android-based e-commerce application of ornamental plants is very good and can improve product image and improve product marketing.

#### 4. CONCLUSION

The concept of developing information technology-based media with an Android-based E-Commerce mobile application model can make an ornamental plant business more developed as an online marketing medium with more consumer reach compared to selling offline only. With its main products, namely various ornamental plants that are ready to beautify your room, ready to cool your eyes, and make your heart calmer.

This method provides a solution for business pioneers to be able to expand their business more broadly and have a place or media to provide information about the products they want to market. Conceptually, this Android-based E-Commerce mobile application media can be used as a product introduction for a wide audience.

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