

E-BUSINESS TO SUPPORT SALES OF FARMER CROPS BASED ON MOBILE APPLICATIONS

By:

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ABSTRACT

The agricultural sector is essential because it is the leading sector and supports the Indonesian economy. Sukapura Village is one of the producers of plant products in the Kertasari District. But on the other hand, most of the farmers experienced problems, and several obstacles emerged, such as the accumulation of harvests that were sold at low prices, which resulted in losses, and the difficulty of distribution because it was pretty complicated. Of course, this situation must be improved so that people can enjoy Indonesian agricultural products. One of them is by building an android-based application "Petani Sejahtera" which is specifically made as an alternative to make it easier for farmers. It can break the distribution chain of agricultural products. You can directly contact the courier who has collaborated with the manager by displaying information on product price lists, farmers' products, and harvested products, which will later be distributed during the main harvest period. So that later, farmers will find it easier to see the products planted and do not have to think about how to distribute the products. The purpose of making this "Petani Sejahtera" Application is to help farmers more easily distribute their products to various suppliers, so there is no accumulation of harvest yields. The benefits generated have a positive influence, especially regarding the price of products produced by farmers following the "current" market price so that farmers do not experience losses and continue to increase their agricultural output.

Keyword: Application; Android; Farmer; Mobile Application; Product

1. INTRODUCTION

Currently, the development of android-based technology in the era of globalization is taking place very quickly. Information technology has become commonplace and important in several aspects of life in the digital era, which is where Android is one of the technological developments that are so fast developing. The definition of Android is a Linux-based operating system used by mobile devices such as

smartphones and tablets. Because Android is an operating system still in the development stage, this operating system is the same as other operating systems such as Symbian, IOS on iPhone, etc. Related to the purpose of the information is to create something more useful. Currently, using a smartphone is the right choice because almost everyone has a smartphone because it is easy to use.

Facts in the field and according to

statistical data on the official website portal of Sukapura-Kertasari Village, the minority of workers as farmers, the number and percentage recorded were 124 people (2.89%), and the workers were 95 people (2.21%) of the total villagers of 4292 people. The definition of a farmer can be interpreted as a human job that uses biological resources to produce food, industrial raw materials, or energy sources, as well as managing its environment to meet the needs of farmers lives with traditional and modern (Hakim, Tinggi, Ekonomi, Tanjung, & Berau, n.d.). The products grown in Sukapura Village include tomatoes, cucumbers, carrots, onions, potatoes, corn chilies, cabbage, cassava, garlic, salad, and coffee.

With the "Petani Sejahtera" application, it can be an option for farmers to distribute their crops because, based on the observations that researchers do in Sukapura Village, farmers usually distribute their products to traditional markets in the region. Or sometimes give the harvest to the "tengkulak" where the "tengkulak" can monopolize the market price. Therefore, this application offers farmers the option to distribute their crops to this application. Because this application

has collaborated with the local government and the management container as the admin.

It often happens that during the harvest season, farmers experience obstacles including the sale of farmers crops sold to traditional markets controlled by "tengkulak" at low prices, which results in farmers experiencing losses due to the absence of those who take/buy farmers' crops, as for those obtained are very small because the distribution channels used by individuals who try to monopolize market prices, farmers must get benefits that can support their lives. Therefore, an android-based mobile application called "Petani Sejahtera", this application makes it easier for farmers to distribute their agricultural products and break the distribution chain to "tengkulak". Of course, the creation of the "Petani Sejahtera" application has collaborated with the government or an institution that has the power to distribute and monitor market prices can remain stable, which is meant this institution is Kadin (Kamar Dagang Indonesia) Bandung City. As stated on the official website of the "Kadin" of Bandung district <https://www.kadinkabbandung.or.id/te ntang-kadin-kabupaten-bandung/> is a forum for professional development

and distribution, aspirations and means of fighting for the interests of the business world and a means of communication between regional, national and government entrepreneurs in striving for the creation of a conducive, healthy and dynamic business climate.

2. LITERATURE REVIEW

a. E-Business

E-business is a transaction activity, buying and selling carried out through electronic devices or the internet so that companies can directly interact with customers, suppliers, and business partners. In short, e-commerce uses information and communication technology to manage and operate a business to make a profit (Setiawan, n.d.). E-business is a commercial activity carried out automatically and semi-automatically by a computerized information system. It can also be said to be an online integrated business process. In this way, all transactions, orders, and purchases of goods are carried out by minimizing the direct contact of the parties involved. This e-business also implements a sustainable and integrated model that allows multiple parties to join forces and work together. The implementation of e-business in the company will indirectly increase the value of the company, which can have an impact

on improving the level of the Indonesian economy (Saty, Apriyani, & Supriyatna, 2018).

b. Mobile Application

The mobile app is software that runs on a mobile device like a gadget. The mobile app is a downloadable app with several functions that complement the functionality of the mobile. The mobile app comes from the words " app, " which means app and usage. About the application, this is a plug-and-play program, which the user can use according to its functionality, and mobile can be understood as the movement from one place to another (Firdaus, 2017). A mobile application is an application that allows for mobility by using equipment such as PDAs, cell phones, or cell phones. Using a mobile application, you can easily carry out various activities ranging from entertainment, selling, studying, doing office work, browsing, etc (Surahman & Setiawan, 2017).

c. Android

Android is a mobile operating system and platform based on Linux kernel versions 2.6 and 3.x. Android is free for commercial and non-commercial use. The android-based operating system was chosen because it is open source, which makes it very easy for users to write their software. The Android system is multitasking so that it can run

various applications simultaneously. Basically, android is a Linux-based operating system that is applied to smartphones and android also provides an open platform for those who want to create applications (Ardyanto & Pamungkas, 2018). Android is the operating system used by most smartphones. In addition, the implementation of the Android operating system on mobile devices has brought the fact that this operating system can precisely meet the needs of the distribution and absorption of information in real-time, providing a practical, clear, interactive and easily accessible information system for everyone on mobile devices (Nova Noor Kamala Sari, Putu Bagus Adidyana Anugrah Putra, & Efrans Christian, 2019). Android is a mobile operating system. Android doesn't distinguish between core apps and third-party apps. The Application Programming Interface (API) provides access to hardware and even cell phone data or system data (Ceryna Dewi, Anandita, Atmaja, & Aditama, 2018).

d. Sales

Sales are the activity of promoting a product or a means of selling a product or the most attractive way and retaining consumers. With the promotion, consumers will know the products or services offered. Once consumers know about the products or services provided, they will always buy and

use the company's products and services (Fauziah, Eldine, & Sume, 2019). It can be said that sales in the field of e-business are a system that involves resources in which some data and procedures are a supporting means to operate the sales system. In the area of Sales, an information system is a business information subsystem consisting of a series of processes that carry out recording, calculating, and creating documents and sales information for administrative purposes, ranging from the receipt of sales orders to the recording of the issuance of commercial invoices (Anggraini, Pasha, & Damayanti Setiawan, 2020).

e. Farmer

There are three characteristics of farmers, namely: legal subordination, cultural specificity, and soil management. Farmers are those who carry out agricultural activities in food crops, horticulture, plantations, and animal husbandry. Under current conditions, farmers face unprecedented challenges. In general, significant changes in the political, economic, and socio-cultural spheres also greatly affected the status of farmers. Along with the influence of changes in market structure, rising fuel and fertilizer prices, climate change are some of the factors affecting the increasingly difficult conditions of farmers today, and so is everyone a difficult challenge for farmers

(Sahri et al., 2022). Agriculture is the largest economic sector in almost all developing countries. This sector provides food for a large part of the population. Creating jobs for almost the entire existing labor force, producing raw materials, industrial raw materials, or auxiliary materials, and becoming the largest source of foreign exchange income for the country (Sukur & Soesanto, 2014).

f. Product.

Products are goods or services produced for use by consumers to satisfy their needs and self-satisfaction. Thus, the product is also everything that is offered to the market to be noticed, owned, used, or consumed, including physical goods, services, personalities, places, organizations, and ideas. The product is also important in commerce, and the product integrates what is produced (Agribisnis, Pertanian, Bisnis, & Dwijendra, 2022). Or something created from the production process, both goods and services that can be exchanged on the market. It can be concluded that the product is everything that can be offered on the market for consumption or use in a way that satisfies the needs and desires of the consumer.

g. Distribution

Distribution is a process of delivering goods or services from producers to

consumers and users when and where the goods or services are needed. The distribution process creates the benefits (utility) of time, place, and diversion. In terms of distribution channels, it is a series of interdependent organizations involved in making a good or service ready for use or consumption. Distribution channels are essentially intermediaries that bridge between producers and consumers. These intermediaries can be classified into two groups, intermediary traders and intermediary agents, whose differences are in the right to own or control products. And there are several alternative channels or channel types that can be used. Usually, the alternative channels are based on groups, namely consumer goods and production goods (Apriadi, Saputra, Informasi, Bina, & Jaya, 2017).

h. "Tengkulak"

"Tengkulak" is an individual or group of people who buy products for the first time from farmers. This "tengkulak" is also a ghost and a catastrophe for farmers that needs to be eradicated and destroyed at all costs. In terms of goals, it is appropriate to abolish the bonding and intermediary system, and it is expected that all parties, the government and farmers, will participate in the system. Nevertheless, "tengkulak" still plays an important role in integrating agricultural activities with the market. In

reality, money lenders or intermediaries are part of the production method of utilizing the role-play of intermediaries between formal and informal financial institutions (Hutabarat, Pertanian, & Banyumas, 2013).

3. METHODS

One of the methods carried out by researchers is a descriptive research method and analysis of the distribution needs of farmers. The focus of this research is that

researchers want farmers to be able to open their mindset with the application of "PJ". The researcher explained that the object under study was related to answering farmers' complaints to answer the events experienced by farmers in Sukapura village. Farmers often have problems with crop distribution following an analysis conducted by researchers based on the methods studied.

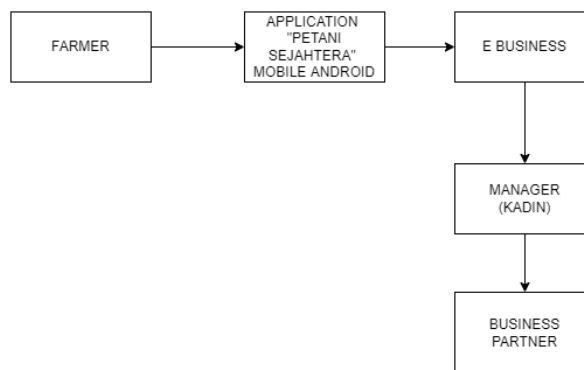


image 1 procedures and research

Description

a. Farmer

Farmers are a source of data that becomes a reference, as a government program wrapped into a "Petani Sejahtera" application where the application is formed to be an option for distributing crops to the management. Later, farmers will input data related to their products and produce.

b. "Petani Sejahtera" Application Mobile Android

The "Petani Sejahtera" application is a container made specifically for farmers that

can be an option for distributing their crops. This is where the "Petani Sejahtera" application is the best choice in its distribution because this application has collaborated with the government Kadin so that the price will follow the market price.

c. E-Business

In this step, of course, there is a business flow where farmers distribute their crops to the application, then the management, is Kadin, chooses products that are deemed suitable to be passed on to business partners who have worked with their party to support

farmers in distributing their crops so as not to continue to damage other parties or "tengkulak"

d. Manager (Kadin)

This Kadin or management is responsible for distributing the crops of farmers that have been put into the application. Then the Kadin party will distribute to business partners under the auspices of Kadin. As the purpose of Kadin is to stabilize prices so that farmers prosper, sometimes farmers complain about why can the price of rice be stable and even rise? Therefore, the Kadin here, as the person in charge, must be able to answer the problems experienced by farmers.

e. Business Partner

Business partners are entrepreneurs or individuals who need crops from farmers, and business partners here can benefit from the usual. Business partners can request Kadin if they need special vegetables, after which Kadin is in charge of forwarding the message from these business partners to farmers to grow vegetables desired by business partners. As for the price issue, business partners will get a reasonable price and quality equivalent to the price because Kadin will always monitor every development of yields made by farmers.

4. RESULTS AND DISCUSSION

The researcher uses a descriptive method based on the research conducted. Descriptive research is a method that objectively describes the object or subject under study to accurately describe the facts and characteristics of the thing and the frequency being investigated. Descriptive research describes the conditions underlying events and develops a theory that explains the rules of relations between events (Zellatifanny & Mudjiyanto, 2018). And analyze the needs of farmers where farmers in Sukapura Village have distribution options because the average corner of the farmer's land wants instant results, while it can indirectly cause outsiders who can take advantage of the farmer's condition. It can be explained that the problem for farmers in Sukapura Village is that farmers need other media to market their crops. With that, researchers try to provide insights with an application called "PJ" developed by Widyatama University students in collaboration with the local government, namely "KDN" as a manager can be a benefit depending on the farmer himself. Based on picture 1, The research flow procedure, the researcher will try to describe the flow

that the researcher uses as the method that has been mentioned that this application will not be able to run if there are no other parties who use it. As for the involvement between the parties who will be involved with sustainability, it is:

a. Farmer

Farmers, the main source in Sukapura Village, have some problems, namely in the distribution of their products. Currently, farmers channel their products to traditional markets where "tengkulak" can monopolize market prices which can cause losses to farmers. When overproduction of vegetables harvested by farmers will experience a decrease in prices and even prices are not sold at all. At that time, the cost of seeds and pesticide liquids was rising, so a medium was needed to distribute farmers' crops for welfare farmers. The government's involvement in collaboration with Widyatama University to create an android-based

application system to help the welfare of farmers.

b. "Petani Sejahtera" Application

As discussed the needs and problems that farmers experience, researchers try to describe how to use this "Petani Sejahtera" application in a concise and targeted manner. Previously, farmers had to create an account first to access or try to sell their crops to the "Petani sejahtera" application which would later be managed by Kadin. This application can be used at least in android version 4.1 or android jelly bean which can be downloaded on the play store following the link: https://play.google.com/store/apps/details?id=com.widyatama.petani_sejahtera

For farmers to sell their crops, open the "PJ" application and then enter the commodity features following the guide:

Step 1 commodity menu



image 2 list commodity page

On the commodities page, the system will store data on products grown by farmers to sell or add products that will be inputted.

products on image 2
Step 3 On the product data page, farmers must complete the data as shown below, then click “simpan”

Step 2 select icon “+” to add



Image 3 add product page

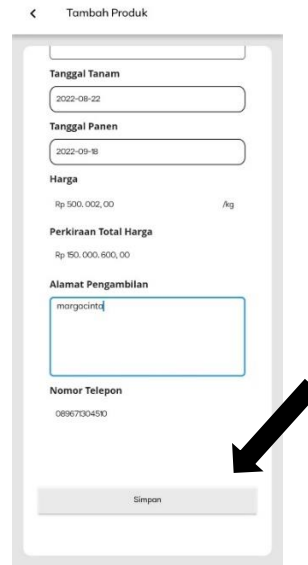


image 4 add product page

The data that farmers must input on the commodity page is as follows:
 Vegetable Name + Photo
 Automatically use the options box.
 Product Details include Land Area based on (/m2), Prediction of harvest weight based on (/kg), Planting Date,

Harvest Date and Price, including automation of total price estimate output before entering shipping and courier services, Pick-up Address, Telephone number automatically when registering.

Step 4 Then, products that farmers have added will automatically appear on the commodity list page



Image 5 the commodity page is already filled with farmer products

Step 5 Click the "details" icon to see the details of the products that have been planted in image 5

The status of the commodity list details has 3, namely:

1. Planting process : Products that are being grown by farmers
2. Harvest : Products that have been harvested by farmers
3. Ready to take : Ready products are picked up by couriers who have

been assigned by Kadin.

When the farmer's harvest enters the harvest period or is ready to be taken, the farmer needs action to change the status from planting to harvesting and when the farmer is ready to distribute his harvest to the courier, the changing status becomes prepared to be taken. To change the status of farmers, you can follow the steps below by clicking "ubah status."



image 6 product details



image 7 status

Step 6 Process ready to take

A farmer will wait for the courier to pick up their harvest at the designated place. Later, Kadin will send couriers

to pick up farmers crops. The "Petani Sejahtera" application will receive a notification as below and immediately click "menuju halaman order."

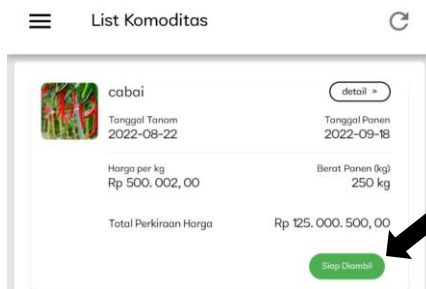


image 8 list commodity page status "siap diambil"

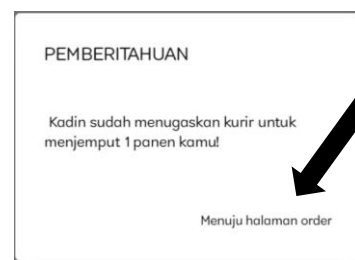


image 9 notification

And it will automatically appear on the "harvest" page. To see the details of the farmer's harvest, you can click

the details in image 9 to find out the details of the courier who will pick up the crop.



image 10 sales details



image 11 sales details

Step 7 Transaction process

After being confirmed by the

courier for pickup, the sales details display will change.

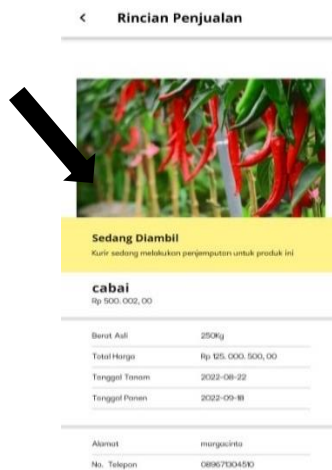


Image 12 sales details status "sedang diambil"

If the courier has arrived at the designated place and met with the farmer, then the courier will pay the predetermined price of the product and the farmer will pay the pick-up fee to the courier. And when it is finished,

the courier will ask the farmer to make sure that the harvest has been taken and paid by means of a message that the courier has already picked up the harvest.



image 13 completed transaction process

a. E- Business

The relationship between e-business and the "Petani Sejahtera" application is a way of distributing its products online, which makes it easier for farmers. However, picking up the product must be done with a meeting of couriers and farmers. Because e-business here is a medium to distribute farmers' harvested products where farmers and couriers have been registered on the "Petani Sejahtera" application

b. Manager (Kadin)

Kadin can monitor farmers' harvests from the website based on data that farmers have entered the "PJ" application. Therefore the "PJ" application needs the role of farmers as users of this application, where the farmer's task is to provide accurate data based on requests from the application, as in figure 4, so that there is no mistake in Kadin, so that the

Kadin can help distribute farmers crops. Therefore Kadin manages or is responsible for the distribution process that occurs in the "Petani Sejahtera" application

c. Business Partner

Here the business partner will cooperate with the "kdn" and later, the farmer's products will be sold to business partners because they will need staples to sell their products. The problem of prices offered from "kdn" to business partners will certainly get a reasonable price according to the quality of farmers' agricultural products because "kdn" will always monitor every development in prices and crops of farmers.

5. CONCLUSION

Based on the results that have been explained, researchers concluded that farmers could distribute their crops to the android mobile-based "Petani

Sejahtera" application. This application has been supported by the local government and Kadin which is responsible for distributing farmers' crops in Sukapura village. The "PJ" application gives farmers a choice in distributing their agricultural products. This application is one of the solutions to break the distribution chain to "tengkulak"

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