Caribi Mobile Application Business Process Modeling

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Abstract. People's behavior in buying and selling or investing in livestock has become a culture in Indonesia, this is even in some areas giving the term; "maro", "paron", "gadoh", "maparoh", "gaduh". Currently, livestock investment is still done conventionally, where investors meet directly with farmers to make investments. On the other hand, for the process of buying and selling livestock, some have adapted to technological advances, doing digital marketing through social media and conducting online transactions. Based on this, we need a technology that can provide facilities to fulfill community needs about investing or buying and selling in the livestock sector. The CARIBI Mobile Application is a marketplace platform built to facilitate the digitization of investments and transactions for buying and selling livestock. Apart from being a tool for independent investing, the CARIBI Mobile Application is also a tool for preserving a culture that has begun to disappear. This study will discuss how the CARIBI Mobile Application Business Process Modeling uses the Business Process Model and Notation (BPMN). Access levels for CARIBI Mobile Application users are divided into 4 sections, namely: admin, breeders, investors, and buyers. Breeders can promote animals that can be invested and sell their livestock. Investors can invest in livestock that can be invested or can sell their investments. Buyers can make purchases of livestock. CARIBI Mobile Application provides information on credibility or assessments regarding breeders and investors, breeder assessments are intended to add reference for investors in deciding investments and can be used as a reference for buyers in buying livestock. While the investor assessment aims to provide a reference for farmers in approving investments from investors.

Keywords: BPMN · CARIBI Mobile Application · digital marketing · livestock investment · marketplace

1 Introduction

Utilization of technology at this time has been applied to various aspects of life, one of which is marked by the development of e-commerce which allows it to reach a wider market compared to offline sales. In addition, the pandemic that has hit the past few years

has narrowed the scope for people to move, so many people prefer to use online shop. As well as smartphone users who continue to grow every day and increase the dependence of the community on the smartphone itself. A report from Stock Apps explained that the number of mobile phone users in the world reached 5.3 billion in July 2021, representing 67 percent of the total population of the earth [1].

People's behavior in buying and selling or investing in livestock has become a culture in Indonesia, this is even in some areas giving the term; "maro", "paron", "gadoh", "maparoh", "gaduh". Currently, livestock investment is still done conventionally, where investors meet directly with farmers to make investments. In the other situation for the process of buying and selling livestock, some have adapted to technological advances by doing digital marketing with social media using Facebook or Instagram, but in the case of buying and selling livestock animals are still carried out conventionally in a way the buyer goes to the farmer's place to check livestock condition then to doing buying and selling transactions.

Based on that reason, we need a technology that can provide facilities to fulfill the community needs in investing or buying and selling in the livestock sector. CARIBI Mobile Application is a marketplace platform that built to facilitate the digitization of investments and transactions for buying and selling livestock. Apart from being a tool for independent investing, the CARIBI Mobile Application is also a tool for preserving a culture that has begun to disappear. In this research, we will discuss how the CARIBI Mobile Application Business Process Modeling uses the Business Process Model and Notation (BPMN) [2].

2 Methods

The Object Management Group (OMG) has developed the Business Process Model and Notation (BPMN) standard. The main goal of BPMN is to provide a notation that is easily understood by all business users, from the business analysts who create the initial design of the process, to the technical developers who are responsible for implementing the technology that will perform the process, as well as to the business people who will manage and monitor the process. those processes [2].

Business Process Modeling Notation (BPMN) is a graphical notation that describes the logic of the steps in a business process. This notation has been specifically designed to coordinate the sequence of processes and messages that flow between participants in different activities [3].

BPMN used because: BPMN is an internationally accepted process modeling standard, BPMN is a process modeling methodology, BPMN creates a standard bridge that reduces the gap between business processes and their implementation, BPMN allows you to model processes in a unified and standardized way so that everyone in the organization can understand each other [2, 4]. List of BPMN Basic Modeling Elements are shown in Table 1.

Table 1. List of BPMN Basic Modeling Element

Elements	Description	Notation
Event	An event is something that "happens" during the course of a Process. These events affect the flow of the model and usually have a cause (trigger) or an impact (outcome). There are three types of events, based on when they affect the flow: Start, Intermediate, and End	○
Activity	Activity is a general term for the work an organization does in a Process	▭
Gateway	Gateway is used to control divergence and convergence of Sequence Flow in a Process. As such, it will define branching, forking, merging, and path merging.	◇
Sequence Flow	Sequence Flow is used to indicate the order that an Activity will be performed in a Process	→
Message Flow	Message Flow is used to show the flow of messages between two Participants who are ready to send and receive them.	○----▷
Association	Associations are used to link information and indicate the direction of flow (for example, data)	··········
Pool	Pool is a graphical representation of the participants in a Collaboration. It also acts as a "swimlane" and a graphical container for partitioning a set of Activities from other Pools	
Lane	Lanes are sub-partitions within Processes, sometimes in Pools, and will extend across Processes, both vertically and horizontally. Paths are used to organize and categorize activities	
Data Object	Data Objects provide information about what activities need to be performed and/or what they produce. Data Objects can represent a single object or a collection of objects. Input Data and Output Data provide the same information for Process	
Message	A message is used to describe the content of the communication between two participants	✉
Group	Group is a grouping of graphic elements that are in the same Category. This type of grouping does not affect the Flow Order in the group	
Text Annotation	Text Annotation is a mechanism for modelers to provide additional text information to BPMN Diagram readers.	Descriptive Text Here

3   Results and Discussion

In this research will describe the CARIBI Mobile Application business processes modeling which is divided into several parts. As with other marketplaces that require us to create an account, the CARIBI Mobile application begins with creating an account. The stages of account registration are shown in Fig. 1.

The account registration stage is done by selecting the register menu, then inputting the email address, username and password. After registering, you will receive a verification notification via email [5]. Registration is carried out for each account level, that are customers, breeders, and investors. The business process model for sale and purchase of livestock are shown in Fig. 2.

Business process model for the sale and purchase of livestock starts with customer selects the market menu to see the sheeps that can be purchased, saves the selected sheep
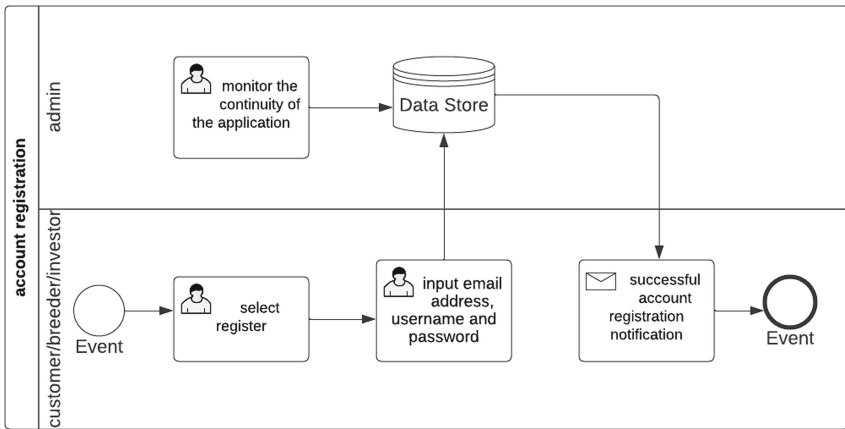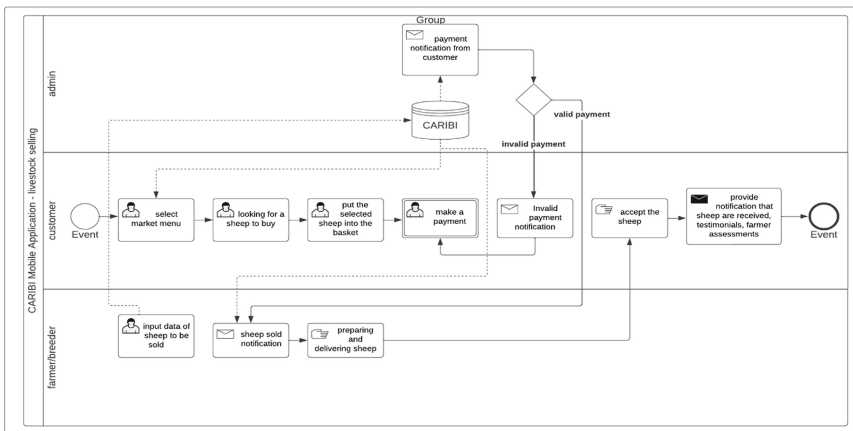

Fig. 1. Account Registration

Fig. 2. Business Process Model for the Sale and Purchase of Livestock
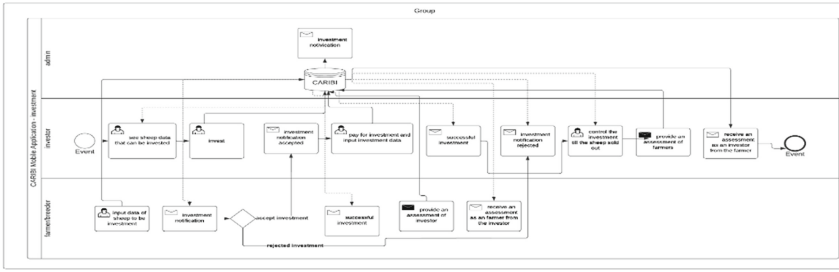
Fig. 3. Business Process Model of Investment are Shown in

into the basket, then makes payment and inputs the proof of transfer within 24 h. The admin will receive a payment notification then check whether the payment is valid or not. If the payment is invalid, the customer will receive a notification to upload the proof of transfer again. If the payment is valid, the farmer will receive a notification that the sheep is sold and the farmer prepares sheep to be sent to the customer. If the customer has received the sheep, he/she must immediately provide information that the sheep has been received, and provide an assessment of the farmer. The business process model of investment are shown in Fig. 3.

For the investment process, investors start looking for sheep data that can be invested, then submit an investment. Farmers will get notifications about investments and can decide whether to accept investors or not based on the investor's assessment in the application. If the investment is accepted, the Investor will receive a notification that the investment has been received and must upload proof of the investment transfer which later on will also receive notification that the investment was successful. However, if the investment is not accepted, the investor will accept notification that the investment proposal is rejected. The role of the admin is to check proof of investment transfers made by investors.

4 Conclusion

CARIBI Mobile Application is a marketplace platform that built to facilitate the digitization of investments and transactions for buying and selling livestock. CARIBI Mobile Application is also a tool for preserving a culture that has begun to disappear. In the CARIBI Mobile Application business processes modeling there are several part process starting from registering applications as customers, breeders and investors, business processes for buying and selling livestock, and business processes for making investments.

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