



## Implementation of the Adoption of Technology Innovation Processes of Calina Papaya in Farmer Women's Group

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### Abstract

*This research aims to identify the process of adopting innovation of calina papaya into Papaya Sauce for women farmer groups to increase the income of women farmer groups. The research was conducted in the village of Rindu Hati with a purposive method. The location selection was due to the existence of a farmer business group that cultivates and manages calina papaya. In this study, the determination of respondents was carried out by census with 32 female subjects who were cultivating and cultivating papaya plants. Data analysis used descriptive methods to assess the characteristics of the data. The results of the research are: First, the knowledge stage is in the medium category for the knowledge function and the high category for the knowing process. Second, persuasion forms a good attitude towards the adoption of innovation in the high category. Third, the getting to know stage is still in the Medium category. Fourth, the Implication stage using innovation is still relatively moderate. Fifth, confirmation of the adoption of papaya sauce innovation is still in the Medium category.*

## Introduction

Adoption in the farm extension process can essentially be interpreted as the process of accepting innovation and / or changing behavior, either in the form of knowledge of innovation adoption, attitudes towards innovation adoption or skills towards adopting innovation in a person after receiving "innovation" conveyed by the extension agent to the target community (farmers). Acceptance here implies not just "knowing" but until actually being able to carry out or apply it properly and to live it in life and its devotion. Acceptance of these innovations can usually be observed directly or indirectly by others as a reflection of changes in attitudes, knowledge and / or skills (Wisdom et al., 2013; Erind, 2015).

Innovation is a process or result of developing the use of a product or resource that has been there before, so that it has more meaningful value. There are also those who say that the meaning of innovation is a renewal of various resources so that these resources have more benefits for humans. The innovation process is greatly influenced by advances in technology and science because these two things can make it easier to produce something new and different. Basically, the benefit of innovation is to improve or enhance the function of the use of a product or resource so that humans get more benefits. Innovation occurs in various fields of life, starting from the world of business, education, communication, and so on.

Basically as individuals, almost all farmers do not have the ability to change the situation of their farmers without guidance and assistance from parties who are competent in their fields, and must be supported by the application of technology that is currently developing. Therefore, the existence of outside assistance is very much needed, either directly in the form of business guidance and coaching or intensively indirectly which can encourage farmers to accept new

things in relying on change actions. In this case, extension activities are very much needed to achieve changes in the behavior of the community, especially farmers, for the realization of an improvement in the quality of life which includes many aspects, including economic, social, cultural, ideological, political and defense and security. Therefore, the development messages that are conveyed must be able to encourage or result in changes that have the character of "renewal" which is commonly called "innovativeness".

The process of needing innovation is a mental process since someone first recognizes an innovation, forms an attitude towards the innovation, makes a decision to adopt or refuses to implement a new idea and confirms the decision. This process consists of a series of individual choices and actions over time or a system of evaluating new ideas and deciding whether to practice the innovation or reject it. This behavior in deciding about a new alternative is related to pre-existing ideas. The nature of an innovation and uncertainty is related to this characteristic which is a special aspect of making innovation decisions (Rogers, 2003). The process of adopting technological innovation is a process of acceptance of new things, the process that occurs can only be seen from the behavior of the individual concerned (Sumarno, 2010).

Rindu Hati Village is a village located within the Taba Penanjung sub-district, Bengkulu Tengah Regency, Bengkulu Province, Indonesia. There are 23 villages within the Taba Penanjung sub-district. Rindu Hati Village, Taba Penanjung District, Bengkulu Tengah Regency, is one of the villages that has assistance. This village is now starting to cultivate papaya calina and has also managed the papaya into a process such as sauces, nuggets, jams, candy, and papaya ice cream. This activity was carried out by the mothers who formed the Perpetanian Group in the village. Formed by the regional development program for the cultivation and processing of Papaya Calina. The area program provides innovation to the chairman to process Calina papaya, so that the community is given training.

Based on the above problems, this research aims to identify the process of adopting innovation of calina papaya into Papaya Sauce for women farmer groups to increase the income of women farmer groups.

## **Methods**

The research was conducted in the village of Rindu Hati with a purposive method. The location selection was due to the existence of a farmer business group that cultivates and manages calina papaya. In this study, the determination of respondents was carried out by census with 32 female subjects who were cultivating and cultivating papaya plants. A census is a sampling technique when all members of the population are used as the sample. Based on this understanding, it can be seen that the census is a sampling technique with all members of the population. In this study, because the population is small (limited), it is not possible to use a sample, so the study takes the same number of samples as the population or is called a census, namely 32 women farmer groups. The types of data collected in this study are primary data and secondary data. Primary data is data obtained directly from respondents through direct interviews using a pre-prepared list of questions (questionnaire), while secondary data is obtained indirectly / through an intermediary in the form of books, notes, existing evidence, or good archives.

Data analysis used descriptive methods to assess the characteristics of the data. Data analysis used descriptive methods to assess the characteristics of the data. Qualitative descriptive analysis is a research procedure that uses descriptive data in the form of written or spoken words from people and actors who can be observed. To measure the level of farmer group adoption using three indicators, namely high, medium, low. The three indicators are described

in a questionnaire with the scoring method (Likert scale). To see the score of the adoption rate of calina papaya technology innovation. The descriptive analysis comes from the categorization of the innovation adoption variables.

$$k = \frac{\text{maximum value} - \text{minimum value}}{\text{Range}}$$

The variables in the innovation adoption stage are (Rogers, 1983): (1) Knowledge: An individual's knowledge can influence the process of adopting an innovation. If the individual is aware of the innovation and knows of its existence, it is possible that the individual will try to adopt an innovation that is beneficial to him; (2) Persuasion: The persuasion stage occurs when individuals have positive or negative attitudes towards innovation. This attitude will not directly lead to whether the individual will accept or reject an innovation. An individual will form this attitude after he knows about innovation, so this stage takes place after the knowledge stage in the innovation decision process; (3) Decision: At this stage the individual makes a decision whether to accept or reject an innovation to be implemented. Based on the research results, it shows that the respondent's decision is to accept the innovation to be implemented; (4) Implementation: At the implementation stage, an innovation is tried to be put into practice to see the functions and uses inherent in the innovation and assess whether the innovation is in accordance with individual needs or vice versa; (5) Confirmation: Confirmation is an ongoing implementation stage, where this stage is an advanced stage from the previous stage. The confirmation stage occurs when the individual believes in innovation and is sustainable in using that innovation.

## Results and Discussion

### The Stages of Adopting Innovation from Calina Papaya into Calina Papaya Sauce

#### Knowledge

Knowledge is information that has been combined with understanding and the potential to act, which is inherent in a person's mind. In this study, namely knowledge in the field of innovation adoption for processing Calina papaya sauce. The adoption of innovations on the function of Calina papaya sauce is at a high level, namely 21.8%, moderate 75%, and low 0%. The knowledge is the function of papaya sauce and the function of processing Calina papaya into Calina papaya sauce. Respondents know the function of the sauce, namely, as a means of mixing food, for example, such as a mixture of meatballs, crackers, etc. However, the majority of respondents knew that sauces were only made from tomatoes and chilies. They don't know that Calina papaya can also be used as a sauce. After the socialization of the sauce-making technology was carried out, there was an increase in knowledge.

Table 1. Adoption of Innovations about the Function of Calina Papaya Sauce

Category	Total	Percentage (%)
Low	0	0
Moderate	24	75
Height	7	21,8
	32	100

This knowledge was obtained from extension workers who came directly to Rindu Hati Village, to provide information to respondents about the processing of Calina papaya into Calina papaya sauce. With this counseling, the respondents found knowledge, namely how to prepare Calina papaya. Likewise with the function of processing the Calina papaya. According to respondents, the function of processing Calina papaya into Calina papaya sauce is one way

to increase the variety of preparations from papaya. Generally, the Calina papaya sauce is useful for a mixture of meatballs, crackers, and others. In addition, if it is processed like that, then Calina papaya which is close to being damaged can be made into processed papaya sauce.

The demand for calina papaya sauce is very high among the community. This can increase the selling value of the sauce, and can also improve the welfare of women farmer groups. The counseling that was carried out was able to provide knowledge about the sauce well, so that the respondents could accept or absorb what was conveyed. Respondents tried to find out more and get to know more about this papaya processed by finding out information from various circles. This information was obtained from social media, asking directly with people or the public who first knew about how and how to process Calina papaya into Calina papaya sauce. Because respondents have not been aware of the functions and preparations of Calina papaya for too long, so the presentation on the knowledge of Calina papaya innovation adoption is still moderate.

### **Persuasion**

Persuasion is a form of communication used to influence and convince others. Persuasion shapes attitudes for processing Calina papaya sauce. Forming an attitude is included in the high category, namely 75%. Function and get to know more about processing Calina papaya into a processed Calina papaya sauce, then the respondent will enter the persuasion stage. Where at this stage, the respondent will form an attitude. The communication provided by the extension workers was considered very good, so the respondents believed that implementing Calina papaya processing in the women farmer group was important. Furthermore, they believe that by managing the processed products, they will get better quality results from processing.

Table 2. Adopt Innovation on Persuasion in Shaping Attitudes towards Processing Calina Papaya Sauce

<b>Category</b>	<b>Total</b>	<b>Percentage (%)</b>
Low	0	0
Moderate	24	75
Height	7	21,8
	32	100

Respondents were very pleased with the profitable sales results. Respondents also sell these processed products to the surrounding community. For respondents, making Calina papaya into Calina papaya sauce was right and right. Respondents felt that the sauce-making process could bring a positive attitude towards fellow members. That way they are increasingly convinced to apply processed Calina papaya into the Calina papaya sauce. Thus persuasion forms a good attitude towards the respondents' high adoption of innovation.

### **Decisions**

The decision is an end of the thought process about a problem by making a choice on an alternative. The decision is a solution to the problem as a situation law which is carried out by selecting one alternative from several alternatives. In this study, the decision to adopt innovation for the processing of Calina papaya sauce is discussed. The adoption of innovation regarding the decision to accept innovation in the processing of Calina papaya sauce is in the high part, namely 75%, while for medium there is 25%, and low is 0%. From the previous stage, the respondents had formed an attitude, namely a good attitude towards the processing of Calina papaya sauce. During the adoption stage decisions regarding the adoption of

technological innovations are made and in the third stage, if those decisions support adoption, the adoption of technological innovations in the company takes place (Hotti, 2015).

Table 3. Adoption of Innovation Regarding Decisions in Accepting Innovations in Processing Calina Papaya Sauce

Category	Total	Percentage (%)
Low	0	0
Moderate	8	25
Height	24	75
	32	100

Respondents have formed a good attitude to start running a calina papaya sauce business. Furthermore, the respondent will decide to continue the process of processing Calina papaya into Calina papaya sauce. Because the respondents agreed to continue, the respondents have also decided that they accept the innovation of processing Calina papaya into Calina papaya sauce. With the decision to accept the making of Calina papaya sauce, the benefits will be obtained faster. The decision to take or accept the adoption of this innovation falls into the High category.

### **Implementation**

Implementation is a process for placing and applying information in operations. In this research, the implementation of innovation adoption for processing Calina papaya sauce. The adoption of innovations regarding the implementation of using innovations in the processing of Calina papaya sauce is in the medium category, namely, 65.5%. From the stages that have been passed, the respondents are familiar with the process of adopting the innovation of processing Calina papaya into Calina papaya sauce. For respondents, the information obtained from the extension agents is correct, it can be beneficial for the respondent. Thus at the decision stage they accept the innovation adoption process.

Table 4. Adopt Innovation about the Implementation of Using Innovations in the Processing of Calina Papaya Sauce

Category	Total	Percentage (%)
Low	0	0
Moderate	21	65,6
Height	11	34,3
	32	100

At this stage, the respondents decided to apply the processing of Calina papaya into papaya sauce as an activity for the women farmer group. However, respondents do not fully know the processing process very well, this is because the knowledge that the respondent receives is still in a new category. So the experience of making, processing has not been fully mastered. That way, the Implication stage using the innovation is still classified as moderate. Taking into account the average assessments of the form of impact on the adoption of innovation attributed to the individual organisational culture factors, the next step of the analysis verified the differences in this respect between the various stages of innovation introduction (Ober, 2020).

### **Confirmation**

Confirmation is an affirmation, validation, and justification. In this research, the confirmation field is seeking to strengthen the innovation adoption decision for processing Calina papaya sauce. The adoption of innovation regarding confirmation in seeking reinforcement of the

decision to process Calina papaya sauce is in the medium category, namely 81.2%. Respondents did not know much information about the processing of Calina papaya into Calina papaya sauce. Because the respondents did not really care about the processing.

Information obtained from members comes from the chairman. According to respondents, they have no intention of finding out information about the processing of the Calina papaya. If the group leader moves to make preparations, then new members will move. If the chairman has not moved to move, then the members have not taken the initiative to move. Not only for processing, but for other processes. Respondents have not taken the initiative to move on their own. Thus, to confirm the adoption of the papaya sauce innovation, it is still in the Medium category. While the characteristics of innovation will not be very significant at predict innovation adoption at the organizational level (Pichlak, 2016).

Table 5. Adoption of Confirmation Innovations in Seeking to Strengthen Decisions on Processing Calina Papaya Sauce

Category	Total	Percentage (%)
Low	0	0
Moderate	26	81,2
Height	6	18,7
	32	100

## Conclusion

Based on the research results, several conclusions were obtained, namely: First, the knowledge stage is in the medium category for the knowledge function and the high category for the process of knowing. Second, persuasion forms a good attitude towards innovation adoption in the high category. Third, the stage of getting to know is still in the Medium category. Fourth, the Implication stage using the innovation is still classified as moderate. Fifth, confirmation of the adoption of the papaya sauce innovation is still in the Medium category. At the adoption stage, the majority of Calina papaya processing innovations are in the medium category. This is because the respondents just know the information on how to process Calina papaya into Calina papaya sauce. Respondents knew when extension officers came to the village and told them about the processing methods, and respondents did not try to find out information from other information circles. In line with Wamba & Carter (2016), It should be directed towards the introduction of information through social media, and village assistants, so that the adoption of innovation in processing Calina papaya into Calina papaya sauce is better and better known by female farmers.

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