

# Supply Chain Management Efficiency of Sheep: Javanese Fat-Tailed Sheep During and Post Idul Adha

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## ABSTRACT

The purpose of this study was to analyze the sheep supply chain after and during the Eid al-Adha period, which consisted of calculating the percentage margin and price margin and supply chain efficiency because by knowing the economic and supply chain calculations you can see the difference in supply chain patterns and prices in livestock. The research method used is survey method. The sample was determined by using the purposive sampling method, the provision involved with marketing, wholesaler and retailer who chosen by snowball sampling method. The result showed that there was three kind with marketing channel from each period. Eid al-Adha namely pattern: I. Producers (Farmer) - wholesalers - Consumers (Society). Pattern II. Producers (Farmer) ± wholesalers ± agents outside of the town and province. Pattern III. Producers (Farmer) ± wholesalers ± religion institution. High marketing margin Javanese Fat-tailed Sheep namely pattern III with marketing high margin IDR280.000 and marketing margin sheep female IDR 200.000. High marketing margin pasca Eid al-Adha male sheep namely pattern II marketing margin IDR320.000 and female sheep high marketing margin IDR 350.000. The most efficient of supply chain marketing Eid al-Adha period was pattern I with farmer price share 95,24% and female 92,29%. The most efficient pasca Eid al-Adha period was pattern I with farmer price share 88,00 and female was pattern III with farmer price share 90,17 %.

**Keywords:** Supply Chain, Fat Tailed Sheep, Jember

## 1. INTRODUCTION

Fat-Tailed Sheep is one type of livestock that is familiar with farming systems in rural areas, this is because of its not too large body size, easy maintenance, fast-breeding, the number of births is often more than one tail, the distance between births is short, and fast growth. In addition, sheep have high adaptability to agroecosystem conditions in a new place. Sheep are able to adapt to survive (Choliq, 2009).

The development of the fat tail sheep business has a high enough market opportunity in Jember Regency because the carrying capacity of climate suitability and accessibility to various areas are easy to reach. The high imports and the low domestic production of meat have an impact on the people's shift to the consumption of lamb at a lower price. Lamb's demand for consumers in particular such as restaurants and hotels is still met by

imports. This is because the domestic lamb meat is not up to the standards desired by the restaurant and hotel.

The demand for lamb meat is getting higher before Islamic holidays such as Eid al-Adha, due to the majority of the Indonesian population and especially in Gumukmas District, Jember Regency, which is Muslim, which causes the need for lamb meat to continue to increase every year. Many breeders use this time to do business selling sheep on a larger scale as well as take advantage of their spare time to raise sheep, the main commodity is chosen by the community is sheep, one of which is sheep. From the above background, the study of the supply chain and price margins of fat-tailed sheep using the DombaHub play store application, in this case specifically for sheep, becomes a very interesting thing to study. Gumukmas sub-district is an area with a considerable sheep population and its maintenance is still traditional in terms of maintenance to marketing which

can be used as a place to find out the analysis of the supply chain (*supply chain*) fat tail sheep postpartum period and Eid al-Adha. Based on the description above, this study aims to supply chain efficiency of marketing fat tail sheep during and after Eid al-Adha in Jember Regency.

**2. METHODOLOGY**

**2.1. Time and Place of Research**

This research was carried out from May to August 2021 at the people's farm, Gumukmas District, Jember Regency. The research location was determined by a purposive method, namely choosing the research location deliberately with the consideration that the sample area was a center for large fat tail sheep farming in Jember Regency with a population of 20758 tails. The marketing process carried out is still traditional.

**2.2. Data Collection Techniques**

Data used in the study included primary data and secondary data. Primary data is data obtained directly from respondents through interviews with a list of questions (questionnaires) that have been prepared. Secondary data is data that is systematically recorded and quoted directly from government agencies or institutions related to this research, scientific reports, and references that are relevant to the research.

**2.3 Data Analysis**

The data obtained were analyzed descriptively based on a survey that has been done.

**2.3.1 Analysis of Marketing Margin**

$$MP = Par - Pf$$

Information:

MP = marketing of fat-tailed sheep at the sheep (Rp/kg)

Pr = price of fat-tailed sheep at the consumer level (Rp/kg)

Pf = price of fat-tailed sheep at producer level (Rp/kg) (Mukson, 2005).

Margin percentage using the following formula:

$$Margin = \frac{\text{price spread}}{\text{amount of marketing margin}} \times 100\%$$

**2.3.2. Analysis of the share of prices received by farmers**

$$SPf = \frac{pf}{Pr} \times 100 \%$$

Analysis of marketing efficiency can be done by approaching the price at the producer level (farmer share) with prices at the consumer level. Calculation of farmer share according to Kohls and Uhl (2002), namely:

Description:

SPf : Marketing Efficiency

Pf : Price at farmer level (Rp/head)

Pr : Price at the consumer level (Rp/head)

**3. RESULTS AND DISCUSSION**

**3.1 Marketing path of fat tail sheep during Eid al-Adha pattern I**

The supply chain pattern for the Eid al-Adha period involves several marketing agencies, due to increasing demand. The marketing process carried out is wholesalers buying sheep from smallholder farmers. The selected lamb has met the requirements for slaughter and according to Islamic law. The marketing process begins with the farmer contacting the village and visiting the farmer's location, then a transaction is carried out by mutual agreement, namely, the sheep must meet the standards desired by the village, the price determination process is carried out by estimating the sheep including, size, coat color, health, and others. Then, the sheep are taken to the wholesaler's house to care for a few days. The sheep that have been purchased are not directly sold by the wholesaler but are first raised for a few days with good quality feed, cleaned, and placed in separate cages. Feeding with high nutrition aims to increase the body weight and health of the sheep so that when purchased by consumers it has a higher selling value.

The marketing strategy carried out in pattern 1 is quite diverse, farmers make preparations two weeks before being sold by cleaning the goats, shaving to make them look cleaner and more attractive to buy for sale. Goats that have been cleaned are moved to cleaner cages and fed with more nutrient-dense feed. This is done to increase the bodyweight of the sheep so that they have a higher price value to be sold to wholesaler. Meanwhile, the strategy used by wholesaler to market its business is to accommodate the sheep that have been purchased from the breeder and then cleaned again and separated into several special skates for sheep that are ready to be sold. Marketing is carried out on certain days about three weeks before Eid al-Adha, wholesaler takes sheep from the breeder, then it is developed and given good care. run by wholesaler by contacting the head of the community to offer sheep for sale to the surrounding community.

Marketing carried out by wholesaler (collectors) are usually distributed to the community by means of transportation by means of a vehicle, if the quantity is large, the sheep will be carried in a pickup truck and if the quantity is small, the sheep will be carried by a motorized local regulation that has been specially designed to carry goats. Sheep sold by breeders to wholesaler on Eid al-Adha for rams for IDR 2,000,000 / head and females for IDR 1,650,000, - / head. Then wholesaler (collectors) resell sheep to consumers the price of rams Rp. 2.100.000,-/head and female for Rp.1.750.000/head.

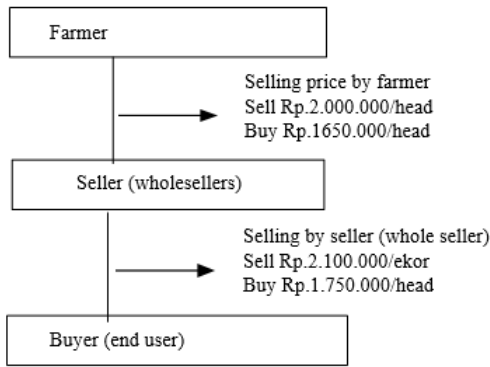


Figure 1 Marketing Paths for Fat-Tailed Sheep during the Eid al-Adha Period Pattern I

The length of the marketing channel in the pattern I can be shortened by using the website www.DombaHub.com. The existence of the website makes it easier for consumers to directly buy the desired sheep without going through a marketing agency. So, the farmer's share becomes bigger.

3.2 Marketing Paths for Fat-Tailed Sheep during the Eid al-Adha Period Pattern II

The marketing supply chain of pattern II for fat-tailed sheep involves many marketing agencies. sales from wholesaler directly to outside the city/province, after agents outside the province there are still many other institutions, but the researcher only discusses beyond the provincial agents because these other institutions are not consistent in doing business. The marketing process is done by buying fat tail sheep to producers at a male price of Rp. 2.000.000,/head and female Rp. 1.650.000/head are then sent out of town using a car that has been specially designed to transport with a capacity of 8-10 birds with an average selling price of Rp. 2,140,000/head while the female is Rp. 1,847,000/head. The marketing process carried out by wholesaler in pattern II, namely, wholesaler has an extensive network of consumers, this is because when selling wholesaler it is very easy to be familiar with buyers so that in disseminating information in the form of wholesaler promotions there are no

difficulties. The business strategy carried out in pattern II for the Eid al-Adha period is that farmers sell to wholesaler, then wholesaler sells sheep out of town and outside the province by two months before Eid al-Adha wholesaler has bought a lot of sheep from breeders at low prices, then collected in large quantities. and maintained properly until it reaches the standard of sheep that is worthy of sale.

The promotion process carried out at the beginning of sales outside the city was on average promoting by participating in training on livestock raising and farmer groups in East Java and Central Java, then continued by establishing cooperation in the Fat-Tailed Sheep business. The marketing of sheep outside the city and outside the province that researchers found the farthest was to Yogyakarta wholesaler, sending sheep was carried out in the afternoon and arriving in Yogyakarta at 08.00-09.30 WIB, the travel time was determined by the condition of the road traversed. In Jogjakarta, a sheep was received by a local man named Mr. Maman, a business partner in the sheep business. The marketing of sheep to Semarang at the same time of delivery is carried out in the afternoon using a car owned by Wholesaler and the cost of the trip itself is calculated by calculating the higher price of sheep when arriving in Semarang. The lamb was received by Mr. Rahmat, one of the leaders of the people's breeder group. According to information obtained from Mr. Rahmat's office, he has been subscribing to sheep for two years. Awal met him during a sheep contest in Surabaya.

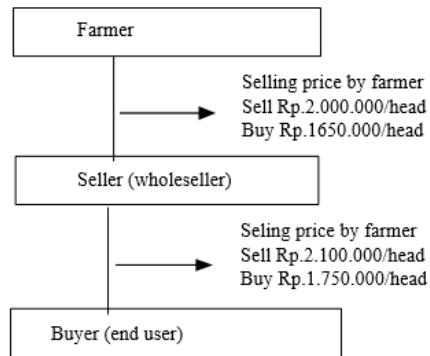


Figure 2 Marketing Paths for Fat-Tailed Sheep during the Eid al-Adha Period Pattern II

3.3 Marketing channels for fat-tailed sheep during the Eid al-Adha period Pattern III

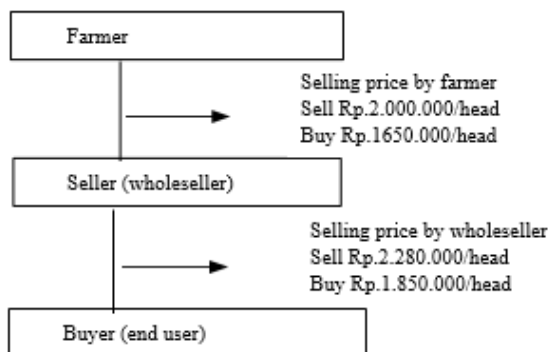
For the Eid-ul-Adha period, marketing for fat-tailed sheep always increases due to public demand every year. Marketing institutions play a role in the distribution process of fat-tailed sheep in pattern III marketing, sheep sales begin with buying lantik to farmers in units of tail, then resell to religious institutions that subscribe regularly every year. Religious institutions that become permanent consumers are mosques, community

organizations and places that organize sheep slaughter in the community.

In the marketing process, the wholesaler buys sheep from the breeder by contacting them first, then the sheep are transported by motorbikes that have been specially designed to transport the sheep, the sheep are treated first at the wholesaler house to be looked after and treated for health, then one week before Eid al-Adha, consumer institutions come to the wholesaler to see whether the sheep to be purchased have met the desired requirements and standards. The transaction took place one week in advance by providing an advance payment then the full payment was made when the sheep were sent to community and religious institutions.

The strategy carried out in pattern III is carried out by the wholesaler, the next wholesaler the community first meets the representatives of the heads of institutions and community organizations, one of which is Mr. Rasyid as the chairman of the takmir of the Miftahul Huda Mosque in Sumbertempur Village Jl. Sukma No. 41. Mr. Rasyid has been subscribing to sheep since April 14, 2015 until now. Wholesaler offers sheep with good quality assurance and affordable prices, in the initial transaction wholesaler does not take much profit but after consumers become customers, wholesaler can easily play the price.

The products sold by wholesaler are fat-tailed sheep with a greater body weight than when buying from farmers, this is done so that wholesaler can benefit from the products sold. The product changes made by wholesaler are only for external appearance, health and body weight of sheep, wholesaler does not sell sheep in the form of carcasses but in the form of tail units, in addition to price changes there are differences in each pattern caused by the length of a supply chain, the longer a chain supply, the higher the price. So in the supply chain this pattern is an efficient pattern because prices do not increase drastically. On the other hand, the product did not change because the sales of sheep from producers to consumers were still in the form of tails, the only changes were body weight and livestock health.



**Figure 3** Marketing Paths for Fat-Tailed Sheep during the Eid a-Adha Period Pattern III

Delivery of sheep to the institution is carried out by wholesaler one day before Eid al-Adha arrives by using a special car to transport sheep with a quantity of 6-8 heads. Sheep are sold to religious institutions and

community organizations, namely males for Rp. 2,280,000/head and females for 1850,000/head.

### **3.4 Fat-tailed Sheep Marketing Channels Post-Idul Adha Pattern I**

The supply chain of fat-tailed sheep in post-Idul Adha pattern I is the sale of sheep starting from smallholder farmers who contact the wholesaler and then they are bought for resale to consumers in traditional markets. The sheep that are purchased usually vary depending on the needs of the breeder to sell them. In the post-Idul Adha period, the sheep sold by farmers to wholesaler returned to normal prices, due to declining demand. In this period, wholesaler bought from smallholder farmers at a price of Rp. 1.760.000,-/head for males and Rp.1.623.000,-/female. Then wholesaler sells to retailers at a price for males Rp. 1.800.000,-/head and price for females Rp. 1.720.000,-/head after retailers buy from wholesaler retailers will resell to final consumers at a price of rams Rp. 2.000.000 ,-/head and the price of the female Rp.1.820.000,-/head.

Retailers buy sheep when there is an order followed by contacting wholesaler first to inquire about the stock of sheep. In the transaction process, retailers will come directly to the wholesaler house to pick up sheep using a motorcycle that has been designed to transport sheep with wood that can accommodate 1-5 sheep which are then sent to the end user.

The sale of sheep in this pattern begins with a business run by farmers with a small quantity, sheep are kept for several years, a simple maintenance process is carried out such as feeding is done by giving forage and concentrate, forage is obtained from the garden itself and Perhutani, the distance between the garden and the cage is not too far about 10 minutes if taken by vehicle, feeding is done by farmers by grazing sheep which is done during the day while morning feeding is done by looking for grass to be given to livestock in the morning, while giving concentrate is rarely done by farmers because farmers have to spend money to buy concentrate, breeders often provide only forage compared to concentrate.

Distribution sales of sheep on a pattern I begins with the preparation process is the breeder separates the sheep to be sold from the sheep which will continue to be maintained, consideration of the determination of the sale of sheep that is by looking at the condition, age and economic needs of farmers, sheep and then distributed to the wholesaler, taking the sheep are usually done In the afternoon when the farmer has returned from the garden, the price agreement is made at the farmer's place and paid directly in cash.

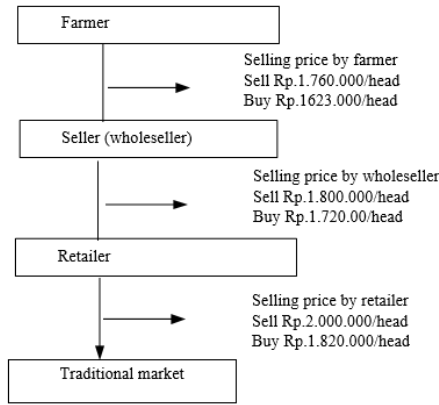


Figure 4 Marketing Path of Fat-Tailed Sheep after Eid al-Adha Pattern I

### 3.5 Marketing Path of Fat-Tailed Sheep after Eid al-Adha Pattern II

Post Eid al-Adha the supply chain returned to normal by involving many institutions and diverse demands such as supply chain from farmers to balantik and then marketed again to restaurants. Marketing starts from smallholder farmers who contact wholesaler and then buy them for resale to restaurants. Lamb sold to restaurants has a standard according to the wishes of the restaurant manager, of course with good quality and good body weight. The sheep purchased usually range from 1.5 years old to 3 years old depending on the needs of the post-Idul Adha restaurant, the sheep sold by the breeder to the wholesaler. In this period, wholesaler buys from smallholder farmers at a price for rams of Rp. 1,760,000,-/head and a female Rp.1,623,000,-/head then wholesaler sells to restaurants at a price of rams of Rp.2,080,000,-/head and the price of the female is Rp.1.973.000,-/head.

The restaurant buys sheep from trusted customers, routinely every two weeks they send sheep to the restaurant. In the transaction process, the owner of the restaurant contacted wholesaler asking to deliver the sheep, wholesaler delivered the sheep using a motorcycle that has been designed to transport sheep with wood that can accommodate 1-5 sheep and then sent to the ordered restaurant. The sheep that will be sold by wholesaler are separated and cleaned so that the appearance of the sheep looks good, the sheep that are sold by wholesaler are sheep that are free from defects and free disease. Pricing is determined by looking at the body condition and bodyweight of the livestock. Delivery of sheep using motorbikes by transporting sheep which are distributed to the satay restaurant owned by Mr. Umar in the south Wager area.

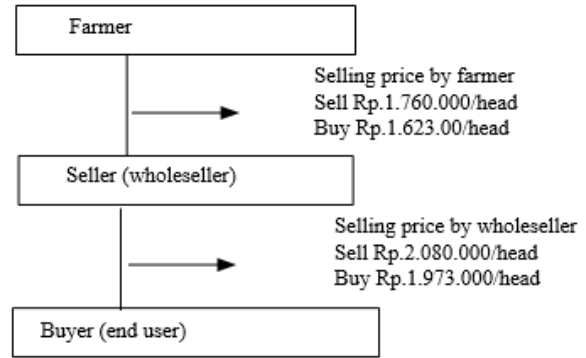


Figure 5 Marketing Path of Fat-Tailed Sheep after Eid al-Adha Pattern II

### 3.6 Marketing channels for fat tail sheep after Eid al-Adha Pattern III

The marketing supply chain for pattern III in the distribution of fat tail sheep involves many marketing agencies due to the length of distribution carried out in pattern III, sales of sheep are carried out from breeders who sell to farms and then sell them back to out of town. , after out-of-town agents, there are still many other institutions, but researchers only discuss outside the city agents. The distribution process is carried out by buying fat tail sheep from the producer and then selling fat tail sheep and sending them out of town using a car with an open tailgate which has been specially designed to transport fat tail sheep with a capacity of 8-10 heads. Fat tail sheep breeders will usually give a different price after Eid al-Adha, breeders will sell fat tail sheep after Eid al-Adha the price of rams is

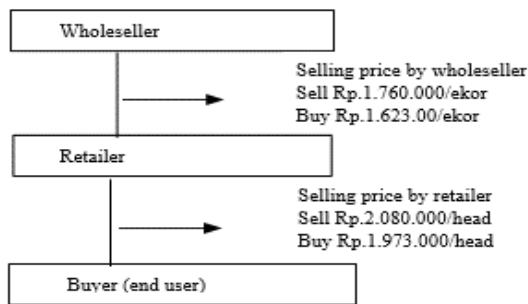
Rp. 1.760.000,-/head and female Rp. 1,623,000,-/head then sell to traders outside the city at a price for rams of Rp. 2.000.000,-/head and the price for females is Rp.1800.000,-/head.

The sale of sheep in pattern III begins with sales made by farmers to the wholesaler, smallholder farmers do not make much profit because the information received regarding the business is not too much, the maintenance carried out by farmers is still simple, feeding more often uses grazing. Sheep that are ready for sale will usually be offered to wholesaler by contacting and offering the number of sheep to be sold, while in the business carried out by wholesaler by looking for sheep to villages to ask for sheep to be sold, the sheep that have been purchased are then reared for several months. for resale to consumers outside the area/city.

The process of distributing sheep out of town is done by using a car belonging to wholesaler which has been specially designed to carry sheep out of town. The delivery is done in the afternoon at 15.00 WIB, the delivery is carried out by two people, the first person acts as a driver and the second as the owner of the sheep. The sheep are distributed outside the cities such as Lamongan, Blitar, and Surabaya, the recipients of the sheep in

Lamongan are Mr. Usman as a wholesaler who serves the demand for restaurants and animal markets, Mr. Aziz as the recipient of Blitar sheep as the head of the fat tail sheep business group which has been established for 7 years, and the recipient in Surabaya is Mr. Hanif as the owner of a satay restaurant who has been subscribing for two years.

Taking advantage of the sheep that have been purchased from the breeder is by first being reared for 2-3 months with good feeding, regular care, shearing to make it more attractive so that it will add value to the price of sheep when sold to consumers outside the city/province.



**Figure 6** Marketing Path of Fat-Tailed Sheep after Eid al-Adha Pattern III

Determination of prices sold outside the city is determined by calculating the price of sheep and transportation costs for sending sheep out of town, the price of each city is different depending on the distance traveled and the quantity of sheep purchased, the farther the distance traveled, the higher the price of sheep. The

**Table 1** Efficiency of marketing supply chain of fat-tailed sheep for the period of Eid al-Adha Supply chain

Pattern	Prices at the farmer level (a)	Prices at the consumer level (b)	Marketing supply chain efficiency of fat tail sheep (a/b) x 100%
<b>Male ( USD / tail)%</b>			
Pattern I	2.000.000	2.100.000	95.24
Pattern II	2.000.000	2.140.000	93.46
Pattern III	2.000.000	2.280.000	87.72
<b>Females (USD / head) x 100%</b>			
Patterns I	1.650.000	1.750.000	94.29
Pattern II	1.650.000	1.847.000	89.33
Pattern III	1.650.000	1.850.000	89.19
Average			90.94

Marketing suppl chain Fat-Tailed Sheep in Gumukmas District, Jember Regency, the Eid al-Adha period on male sheep shows an efficient marketing supply chain because the *farmer price share* is more than 40% with an average percentage of 92.14%. Sheep during the Eid al-Adha period were also efficient due to *farmer price share* <40% with a percentage of 90.94%.

business strategy carried out by wholesaler in pattern III is to increase networks and information related to the demand for sheep outside the city, wholesaler usually takes advantage of cattle contest moments to add to the market network. From the respondents, the researchers found that the average economic ownership was higher for wholesaler, this can be seen from ownership assets, such as cars, house conditions, and others.

### 3.7 Efficiency of the marketing supply chain of male and female fat tail sheep during the Eid al-Adha and Post-Idul Adha periods

Efficient marketing is the ultimate goal to be achieved in the marketing system, the marketing system provides satisfaction to all parties involved such as producers, consumers, and institutions marketing. According to Sudiyono (2001), to measure marketing efficiency, a structure, performance, and market behavior approach can be used. Efforts to improve marketing efficiency can be done by increasing marketing output and reducing marketing costs.

A perfectly competitive market can create an efficient marketing system because it provides incentives for market participation, i.e., producers, marketing agencies, and consumers. The measurement of marketing efficiency uses *farmer price share*, namely the comparison between the selling price of farmers and the final consumer's purchase price multiplied by 100%, marketing is said to be efficient if the farmer price share is above 50%.

The most efficient Fat-Tailed Sheep marketing supply chain during the Eid al-Adha period for male Sheep is in the pattern I because the *farmer price share* is highest 95.24%, while the most efficient female Sheep supply chain pattern is a pattern I because the *farmer price share* is highest 94, 29%

**Table 2** Efficiency of marketing supply chain of fat tailed sheep after Eid al-Adha

Supply Chain Pattern	Price Farmer Level (a)	Price at Consumer Level (b)	Marketing Supply Chain Efficiency of Fat-Tailed Sheep (ab/b) x 100%
Male ( Rp/head)			%
Pattern I	1.760.000	2.000.000	88.00
Pattern II	1.760.000	2.080.000	84.62
Pattern III	1.760.000	2.000.000	88.00
Average			86.87
Female			%
Pattern I	1.623.000	1.820.000	89.18
Pattern II	1.623.000	1.973.000	82.26
Pattern III	1.623.000	1.800.000	90.17
average			87.20

Source: Primary Data Processed (2021)

Marketing supply chain Fat-Tailed Sheep in Gumukmas Subdistrict, Jember Regency after Eid al-Adha on male sheep shows an efficient marketing supply chain because the farmer price share is more than 40% with an average percentage of rams of 86.87%. Sheep after Eid al-Adha are also efficient due to farmer price share <40% with an average percentage of 87.20%.

The most efficient marketing supply chain of Fat-Tailed Sheep after Eid al-Adha for male Sheep is in patterns I and III because the farmer price share is highest 88.00%, while for Sheep the most efficient supply chain pattern is pattern III because the farmer price share highest equal to 90.17%.

#### 4. CONCLUSION

Based on the results of the study, it can be concluded that: The supply *chain of* Fat-Tailed Sheep in Gumukmas District, Jember Regency during the Eid al-Adha period: the pattern I: breeders ± wholesaler ± consumers (community), pattern II: breeders ± wholesaler ± traders outside the city outside the province, pattern III: breeder ± wholesaler ± religious institutions (mosque leaders, religious institutions). Supply chain (*Supply chain*) Fat Tailed Sheep in District Gumukmas Jember district after the Idul Adha: the pattern I: breeders - wholesaler - businessmen house eating, pattern II: breeder ± wholesaler ± retailers – consumers, pattern III: breeders ± wholesaler ± traders outside the city in the province.

The most efficient supply chain during the Eid al-Adha period in Gumukmas District, Jember Regency, male and female Fat Tailed Sheep is pattern I in terms of *farmer price share*, males 95.24% and females 92.29%. The efficiency of the supply chain after Eid al-Adha male Fat Tailed Lamb is pattern I with a *farmer price share of* 88.00% and a female in pattern III with a *farmer price share of* 90.17%. This indicates that the shorter the supply chain, the more efficient it is. The most efficient marketing supply chain of Fat-Tailed Sheep during and

after Eid al-Adha is pattern I by using a market place [www.DombaHub.com](http://www.DombaHub.com)

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