

Research Article



Swamp Buffalo Marketing Transformation (*Bubalus bubalis carabauesis*) Digital-Based Marketing: Cases in Hulu Sungai Utara Regency, South Kalimantan Province

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Abstract | This study aims to examine the marketing transformation of swamp buffalo (*Bubalus bubalis carabauesis*) with digital-based marketing. This research has been carried out from January to June 2022 in Paminggir District, Hulu Sungai Regency, North of South Kalimantan Province. The methods used in this study are survey and observation methods. Data collection carried out includes; purposive sampling and accidental sampling techniques with the main respondents, namely breeders, collecting merchants, wholesalers, retailers, and consumers. The number of respondents in this study was 135 persons. Methods of data analysis carried out include; qualitative analysis and quantitative analysis. Qualitative analysis is intended to find out the characteristics of marketing institutions, and the marketing channels of buffalo cattle. While quantitative analysis is intended to find out margins and farmer share and marketing efficiency. The results of the study obtained that there are 4 patterns of swamp buffalo marketing channels, namely: 1) direct marketing funnel patterns, 2) one-level marketing funnel pattern, 3) two-tiered hardening funnel pattern, and 4) three-tier marketing funnel pattern. One-level marketing patterns have the highest value of marketing efficiency (Eps= 3.19) compared to two-tier marketing patterns (Eps=7.37) and three-level marketing patterns (Eps= 8.97). The marketing intermediary institutions that get the highest profit share are large traders.

Keywords | Livestock, Swamp Buffalo, Marketing, Margins

Received | September 18, 2022; **Accepted** | October 15, 2022; **Published** | November 15, 2022

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Citation | Widaningsih N, Hartono B, Utami HD, Rohaeni ES (2022). Swamp buffalo marketing transformation (*Bubalus bubalis carabauesis*) digital-based marketing: cases in hulu sungai utara regency, south kalimantan province. Adv. Anim. Vet. Sci. 10(12): 2546-2554.

DOI | <http://dx.doi.org/10.17582/journal.aavs/2022/10.12.2546.2554>

ISSN (Online) | 2307-8316



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INTRODUCTION

The rapid development of technology and information systems as a form of anticipation of the issue of disruption due to the Industrial Revolution 4.0 which gave birth to volatility, uncertainty, complexity, and ambiguity has an impact on the rapid development of business models as well, so that competition in the fight for market share and consumers becomes more intense. This condition is an opportunity as well as a challenge for business actors to

carry out transformation which requires an innovation in marketing their business. Therefore, business actors must develop various accurate marketing strategies for the sustainability of their business by adjusting to the times. According to Kotler and Armstrong (2018) that marketing is part of the spearhead that makes a company will achieve success or setbacks. Further according to Seric et al. (2019) that the management of the company must really have a business strategy for achieving company goals properly and correctly. Marketing is a whole system of business activities aimed at planning, pricing, promoting and dis-

tributing goods and services that satisfy the needs of both existing and potential buyers. According to Kotler (2003) that marketing is an effort to promote, inform and offer to consumers about a business product or service managed by a company as an effort to increase the sales figures of the product or service. Specifically, livestock marketing to consumers is a process that involves various institutions/marketing actors to distribute products from farmers to end consumers (Mastuti, 2018).

The Covid-19 pandemic has greatly impacted all sectors of human life, including the buffalo livestock business in South Kalimantan. Government policies in order to prevent the spread of the virus, namely by carrying out social distancing as well as by requiring vaccines. Social restrictions imposed in Indonesia starting from Large-Scale Social Restrictions (PSBB), New Normal to the Implementation of Restrictions on Community Activities (PPKM) level has changed people's behavior, where most of people's activities are carried out online, including in terms of business models that have changed from conventional to digitalization. Even though long before the pandemic occurred, digital marketing activities have been known and have been applied by various sectors including the marketing of livestock products. According to Pavenkov and Rubtcova (2019) that marketing has a journey that has evolved from marketing 1.0 to marketing 4.0 concepts.

Digital Marketing is one of the marketing strategies by utilizing digital-based technology that creates online channels to the market such as websites, e-mail, data bases, digital-based TV and the use of many other types of updated innovations including social media. The rapid development of digitalization technology causes business actors to move quickly to adjust to these changes (Fan et al., 2006). However, on the other hand, various forms of information system technology have not been carried out and utilized optimally, especially by swamp buffalo breeders in Hulu Sungai Utara Regency, South Kalimantan Province, so that the development of animal husbandry tends to be slow, even though South Kalimantan Province has an agroecosystem that is very suitable for the development of swamp buffalo cattle, because it has a swampland area 70,842.43 Ha. Hulu Sungai Utara Regency is one of the regencies in South Kalimantan Province which is the center of swamp buffalo development, because having a swampland area is 46.01% of the area of swampland in South Kalimantan or as large as 32,594.98 Ha (BPS, 2020). The swampland area is a source of natural forage (Putu, 2003; Hamdan et al., 2006; Rohaeni et al., 2006). Research results Himawan et al. (2020) that The North River Upper District is the area with the highest number of swamp buffalo populations in terms of Location Quotient value (LQ) are ranked first out of 13 regencies/cities in South Kalimantan, with value

of Location Quotient (LQ) is 9.46 and became the center of swamp buffalo livestock production in South Kalimantan. The population of swamp buffalo cattle in Hulu Sungai Utara Regency is 9,037 or 36.57% of the total swamp buffalo population in South Kalimantan Province (BPS, 2021).

Swamp buffalo cattle have the potential to be cultivated as a meat producer, because they have a body weight ranging from 500-600 kg and the percentage of carcasses is quite high, reaching 50.26% (Rohaeni et al., 2005). Further, Diwyanto and Handiwirawan (2006) that buffalo has biological and economic potential to be developed. The development and distribution of buffalo can be carried out in many areas because it has excellent adaptability to the environment. Swamp buffalo can be used as a support for the fulfillment of the national meat self-sufficiency target so that the existence of swamp buffalo can directly or indirectly contribute to the realization of meat supply nationally. The need for beef and buffalo nationally is 361,210 tons, so the target set by the government, national meat production is pegged at 2.32 million heads or equivalent to 422,533 tons of meat, but until the end of June 2020 the Ministry of Agriculture noted that the production of beef and buffalo in the country has only reached 210,707 tons or equivalent to 1.16 million. This shows that the availability of domestic buffalo meat is not sufficient nationally so that Bulog imports 80 thousand tons of buffalo meat in 2021. This condition is an opportunity as well as a challenge for buffalo farmers in Indonesia, especially swamp buffalo breeders in South Kalimantan to continue to increase the productivity of their livestock so that they are able to contribute more in meeting national meat needs. Therefore, the marketing transformation of swamp buffalo farms really needs to be done, one of which is digital-based marketing.

In the marketing, there are many marketing actors involved. The more marketers there will be, the more costs will be incurred. Marketing can be said to be efficient if the seller can sell the production at the lowest cost to consumers and is able to hold a fair profit sharing to all parties participating in the production process and commerce. According to Emhar et al. (2004) that marketing margin is part of all fees paid and revenue received by each marketing chain. Marketing chains that are too long become inefficient because consumers will feel burdened with marketing costs. This certainly affects the difference in the price received by the farmer to the price issued by the consumer. Farmers must prepare and carry out various effective and efficient strategies to face increasingly fierce competition in the fight for market and consumer share in the era of the industrial revolution towards the era of society 5.0. Therefore, Swamp buffalo cattle marketing system based on digital marketing will certainly be able to facilitate the process of

distributing livestock and livestock products, starting from producers (farmers) to consumers (Yusuf and Nulik, 2008). The smaller the value of marketing efficiency obtained, the more efficient the channel and the (Soekartawi, 2002).

MATERIAL AND METHOD

LOCATION AND TIME OF RESEARCH

This research was conducted from January to June 2022 in Hulu Sungai Utara Regency, South Kalimantan Province, which is one of the centers for the development of swamp buffalo cattle in South Kalimantan Province. The Hulu Sungai Utara Regency, both socio-culturally and from a socio-economic aspect for generations has carried out swamp buffalo livestock activities.

RESEARCH METHODS

The methods used in this study are observation and survey methods. The data retrieved are primary and secondary data. Primary data were collected using direct observation techniques and interviews with respondents using questionnaires. Secondary data are collected through various literature, books or journals that can be used as reference material to support primary data during research.

SAMPLING TECHNIQUES

Sampling was carried out using the purposive method in Paminggir District, Hulu Sungai Utara Regency. Respondents were Marketing agencies involved in the marketing of swamp buffalo cattle, including; breeders/producers, collecting merchants, wholesalers, retailers, and consumers. Respondents of producers/breeders were 135 persons. Respondents of collecting merchants, wholesalers, retailers, and consumers were carried out by incidental sampling and accidental sampling method and combined with snowball sampling techniques, namely by following the flow of marketing based on information obtained from previous buffalo cattle traders.

STATISTICAL ANALYSIS

The data obtained are further processed qualitatively and quantitatively, and presented in the form of descriptions and tabulations of numbers. Qualitative analysis is used to find out the characteristics of marketing institutions, and the marketing channels of buffalo cattle. While quantitative analysis is used to determine margins and farmer share and marketing efficiency. Marketing Margin is calculated using the following formula:

$$MP = Pr - Pf$$

Where:

MP : Margin marketing (IDR/Kg)

Pr : Prices at the consumer level (IDR/Kg)

Pf : Prices at the level of breeders (IDR/Kg)

According to Sudiyo (2002) that to find the share of marketing costs and the share of profits of marketing agencies can be used the following formula:

$$Ski = \frac{Kpi}{Pr - Pf} \times 100\%$$

$$Sbi = \frac{Kbi}{Pr - Pf} \times 100\%$$

Where:

Ski : Share the advantages of marketing agencies the-i (i=1)(IDR/Kg)

Kpi : advantages of marketing agencies the-i (IDR/Kg)

Sbi : Share marketing costs the-i (IDR/K)

Kbi : marketing costs the-i(IDR/Kg)

Pr : prices at the consumer level (IDR/Kg)

Pf : prices at the manufacturer's level (IDR/Kg)

RESULTS AND DISCUSSION

CHARACTERISTICS OF RESPONDENTS

The characteristics of respondents observed in this study include age, education and length of business experience. The characteristics of respondents are presented in table 1. Based on Table 1 above, it can be seen that the age of the respondents ranged from 15-64 years, namely 119 people (88.15%) and the rest were over 64 years old as many as 16 people (11.85%). Thus the age of the respondents is categorized as productive age. Productive age can affect the level of productivity, which is higher than those who are outside the productive age. This is in accordance with Ibrahim et al. (2020) that age is one of the factors affecting a person's productivity. A person who is at a productive age then his level of productivity is higher than those who are outside the productive age. The productive age according to the Central Statistics Agency is in the range of 15-64 years.

The highest level of education of respondents was elementary school, which was 65 people (48.15%) followed by senior high school 32 people (23.70%) junior high school 28 people (20.74%) and bachelor 10 people (7.41%). This shows that the respondent's education level is still relatively low. The low level of education possessed by respondents affects the level of ability and way of thinking they have. This is in accordance with the opinions of Lestraningsih and Basuki (2006) which states that, the level of education affects the ability of breeders in the application of technology. If education is low, the thinking power is narrow, the ability to reason a new innovation will be limited, so that the insight to advance is lower than that of highly educated

breeders. Farmers who have higher mindset and are flexible in responding to a problem, they will always strive to improve the level of life better.

However, on the other hand, although the level of education is categorized as still low, respondents have a long period of experience raising livestock in their business. This is because raising swamp buffalo has been carried out for generations, so this has become one of the strengths in the development of the swamp buffalo business. According to [Otoluwa et al. \(2016\)](#) said that the longer farmers cultivate livestock, it allows them to learn more from their experience, so that they can easily accept technological innovations related to the business being run. Experience is the best teacher, the more experience experienced by breeders, the more skilled they will be in managing a livestock business. The experience of raising livestock will be obtained by a person based on the length of time they have been involved in a livestock business. Respondents' experience in raising swamp buffaloes is more than 20 years. This shows that the majority of respondents already have the experience and knowledge shown by their length of time as breeders. This is because the business they carry out is hereditary. According to [Mastuti and Hidayat \(2008\)](#) stated that, the more experienced in raising livestock, it is hoped that the knowledge gained will increase so that the skills in running a livestock business will increase.

INSTITUTIONS AND MARKETING CHANNELS

The agencies involved in the marketing of swamp buffalo in the Hulu Sungai Utara Regency are; a) Swamp buffalo farmers as producers, b) Local collecting merchants within the village, c) Wholesalers located in the Subdistrict/Regency, d) Merchant retailers located in the Subdistrict/Regency, and e) Consumers located within the village (local consumers) and consumers located outside the village.

Marketing channels of swamp buffalo in the Hulu Sungai Utara Regency has 4 patterns, namely; First, the pattern of direct marketing channels (without intermediaries), where farmers sell their livestock directly to local consumers in the village. Second, a one-level marketing channel, namely farmers market their livestock through large traders in the Subdistrict/District to be further marketed to consumers in the Subdistrict/District. Third, two-level marketing channels, namely farmers market their livestock through local collecting merchants in the village, then marketed to wholesalers and consumers. Fourth, a three-level marketing channel pattern, namely marketing carried out by breeders through collecting merchants, wholesalers, retailers and consumers. Based on these four patterns, what many farmers do is a two-level marketing channel pattern, which is 40%, followed by a three-level marketing channel pattern (26.66%), a one-level marketing channel pattern

(20%) and finally a direct marketing channel (13.33%).

Farmers who did the direct marketing pattern were fewer (13.33%) when compared to the two-tier marketing channel pattern (40%). This is because swamp buffalo cattle are marketed directly to local consumers, the price is lower, which ranges from IDR 9,500,000 – 12,550,000 /buffalo (average IDR 11,025,000/buffalo). The low price is due to the fact that farmers market to local consumers that still have kinship relationships that are usually used for customary purposes or certain major events, for example, weddings, commemorating the Maulid of the Prophet Muhammad SAW and Eid al-Adha. Therefore, farmers prefer to do marketing with two levels, namely through collecting traders in the village because the price is relatively high, which ranges from IDR 12,780,000 – 21,960,000/buffalo (average IDR 18,060,000/buffalo). In addition to price reasons, farmers feel that the existence of intermediary traders /collectors is very helpful in marketing their livestock faster and more practically, especially when the swamp buffalo is sick or has suffocation while swimming (usually often occurs in swamp buffalo cubs), so a fast marketing process is needed. But on the other hand, breeders are faced with a weak bargaining position, due to the lack of knowledge of price and marketing information, even more so when the farmer needs money to cover his urgent needs, so that the livestock is sold at a price that becomes less reasonable. This can actually be minimized if farmers can know and apply digital marketing well, at least actively using social media related to the development of price information and marketing of swamp buffalo.

COST, MARGIN, FARMER SHARE'S, MARGIN DISTRIBUTION AND PROFIT

The results showed that the more marketing institutions involved in marketing swamp buffalo, the less profit share obtained by breeders, and vice versa, the fewer marketing institutions involved, the more profits obtained by breeders. Thus, the shorter the marketing chain, the greater the profit obtained by the farmer, and vice versa. This is in accordance with the opinion of [Simona et al. \(2016\)](#), that the shorter the marketing chain, the more profits the breeder gets, similarly the longer the marketing chain, the less profit obtained by the breeder. According to [Pramanto \(2017\)](#) that short buffalo marketing channel is the most efficient and profitable for buffalo breeders. Whether or not the four patterns of swamp buffalo marketing channels are efficient can be known from the cost value, margin, farmer share's, distribution of margins and marketing profits of swamp buffalo from the four patterns of swamp buffalo marketing channels in the Hulu Sungai Utara Regency presented in [Table 2](#).

Based on [Table 2](#) above, it can be seen the cost value, margin, farmer share's, distribution margin and marketing

profit of swamp buffalo for each of the marketing channel patterns as follows:

DIRECT MARKETING FUNNEL PATTERNS

In this pattern, the Margin Value is 0 because farmers directly market their livestock to consumers and the marketing costs are charged to consumers, so the farmer's profit share is 100%. This pattern is actually the most profitable for farmers compared to other patterns, but because breeders market it directly to local consumers so that the selling price is cheaper.

ONE-TIER MARKETING FUNNEL PATTERN

The marketing margin value in this pattern is IDR 2,675,000. The average share of the price received by farmers is IDR 13,641,667 or 83.60% of the price received by consumers. Based on the percentage share of these profits, it is explained that buffalo breeders receive high prices from the prices received by consumers. This means that buffalo breeders are not harmed in the marketing channel because the share of profits obtained by buffalo breeders is greater than from other marketing agencies at that one level of marketing pattern.

The share of profits received by large traders is IDR 2,154,600 or 13.20% with a margin distribution value of 80.55%. The total marketing costs are charged to wholesalers, which is IDR 520,400 /buffalo consisting of transportation costs of IDR 260,000 /buffalo or 1.59 % with a margin distribution value of 9.72%, cutting costs of IDR.200,000 /buffalo or 1.22 % with a margin distribution value of 7.48% of the cost for feed of IDR 38,000 /buffalo or 0.23% with a margin distribution value of 1.42% the cost of purchasing lime is 9,600 /buffalo or 0.06 % with a margin distribution value of 0.36%. The cost of purchasing firewood is IDR 1,800 /buffalo or 0.01% with a margin distribution value of 0.07%, and the cost for purchasing salt is IDR 11,000 /buffalo or 0.07 % with a margin distribution value of 0.41%.

Thus, overall it shows that this one-level marketing channel pattern is profitable because the value of its profit share of 96.81% is greater when compared to the cost share value of 3.19% and the value of its profit margin of 80.54% is greater when compared to the cost margin issued by wholesalers which is 19.45%.

TWO-TIER MARKETING FUNNEL PATTERN

The marketing margin value in this pattern is IDR 5,982,917. The average share of prices received by producers or breeders is IDR 12,077,083 or 66.87% of the price received by consumers. Based on the percentage share of these profits, it is explained that buffalo breeders receive high prices from the prices received by consumers. This

means that buffalo breeders are not harmed in the marketing channel because the share of profits obtained by buffalo breeders is greater than from other marketing agencies in the two-level marketing pattern.

The profit share received by the collecting merchant was IDR 1,553,542 or 8.60%. The total costs incurred by the collecting merchant are IDR 810,000 consisting of ship rental costs of IDR 460,000 /buffalo or 2.55% with a margin distribution value of 7.69%, transportation costs (cars) of IDR 220,000 /buffalo or 1.21% with a margin distribution value of 3.68%, costs for transport personnel of IDR 100,000 /buffalo or 0.55% with a margin distribution value of 1, 67% and for file fees of IDR 30,000/buffalo or 0.17% with a margin distribution value of 0.50%.

The share of profits received by large traders is IDR 3,098,975 or 17.16%. The total costs incurred by wholesalers of IDR 520,400/buffalo consist of transportation costs of IDR 260,000/buffalo or 1.44% with a margin distribution value of 4.35%, cutting costs of IDR 200,000/buffalo or 1.11% with a margin distribution value of 3.34%, costs for feed of IDR 38,000/buffalo or 0.21% with a margin distribution value of 0.64%, the cost for purchasing lime is 9,600/buffalo or 0.05% with a margin distribution value of 0.16%, the cost for firewood is IDR 1,800 /buffalo or 0.01% with a margin distribution value of 0.035 and the cost for the purchase of salt is IDR 11,000 /buffalo or 0.06% with a margin distribution value of 0.18%.

Thus, the overall show that this two-tier marketing channel pattern is also profitable, but the profit share value and margin distribution value are smaller than the one-level marketing channel pattern. The profit share of this two-tier channel pattern is 92.63% greater when compared to the cost share value of 7.37% and the value of its profit margin of 77.76% is greater when compared to the cost margin issued by wholesalers, which is 22.24%.

THREE-LEVEL MARKETING FUNNEL PATTERN

The marketing margin value in this pattern is IDR 8,768,333. The average share of the price received by producers or breeders is IDR 11,731,667 or 57.22% of the price received by consumers. Based on the percentage share of these profits, it is explained that buffalo breeders receive high prices from the prices received by consumers. The biggest profit obtained by marketing institutions is the profit by large traders, which is IDR 3,839,600 or 18.73%. The share of profit received by the collecting trader was IDR 1,363,333 or 6.86%. The total marketing costs incurred by the collecting merchant are IDR 810,000 /buffalo consisting of ship rental costs of IDR 460,000 /buffalo or 2.31% with a margin distribution value of 5.65%, transportation costs (cars) of IDR 220,000 /buffalo or 1.11% with a margin distribution value of 2.70%, costs for labor

Table 1: Characteristics of Respondents

Description	Number (person)	Percentage (%)
Age (years)		
0-14	0	0
15-64	119	88.15
>64	16	11.85
Education		
Elementry school (SD)	65	48.15
Junior High School (SMP)	28	20.74
Junior High School (SMA)	32	23.70
Bachelor Degree University	10	7.41
Business Experience		
<10	19	14.07
10-20	52	38.52
>20	64	47.41

Table 2: Cost, Margin, Farmer share's, Margin Distribution and Profit

No	Marketing Agency	Price (IDR)	Share (%)		DM (%)		π/C
			Ski	Sbi	Ski	Sbi	
Channel I							
1	Breeder (Selling Price)	11,025,000	100				
2	Consumer						
	Buy Price	11,025,000					
	Margin Marketing	0					
	Total		100				
Channel II							
1	Breeder (Selling Price)	13,641,667	83.61				
2	Wholesalers						
	Buy Price	13,641,667					
	Marketing Costs	520,400					
	Selling Price	16,316,667					
	Profit	2,154,600	13.20		80.55		4.14
	Consumer						
3	Buy Price	16,316,667					
	Margin Marketing	2,675,000					
	Total		96.81	3.19	80.55	19.45	
	Channel III						
1	Breeder (Selling Price)	12,077,083	66.87				
2	Collecting Merchants						
	Buy Price	12,077,083					
	Marketing Costs	810,000					
	Selling Price	14,440,625					
	Profit	1,553,542	8.60		25.97		1.92
	Wholesalers						
3	Buy Price	14,440,625					
	Marketing Costs	520,400					
	Selling Price	18,060,000					
	Profit	3,098,975	17.16		51.80		5.95

4	Consumer				
	Buy Price	18,060,000			
	Margin Marketing	5,982,917			
	Total		92.63	7.37	77.76 22.24
Channel IV					
1	Breeder (Selling Price)	11,731,667	59.03		
2	Collecting Merchants				
	Buy Price	11,731,667			
	Marketing Costs	810,000			
	Selling Price	13,905,000			
	Profit	1,363,333	6.86	16.74	1.68
3	Breeder (Selling Price)				
	Buy Price	13,905,000			
	Marketing Costs	520,400			
	Selling Price	18,265,000			
	Profit	3,839,600	19.32	47.15	7.38
4	Merchant Retailers				
	Buy Price	18,265,000			
	Marketing Costs	453,000			
	Selling Price	19,875,000			
	Profit	1,157,000	5.82	14.21	2.55
5	Consumer				
	Buy Price	19,875,000			
	Margin Marketing	8,143,333			
	Total		91.03	8.97	78.10 21.90

of IDR 100,000 /buffalo or 0.50% with a margin distribution value of 1.23%, and the cost incurred for the file is IDR 30,000 /buffalo or 0.15% with a margin distribution value of 0.37%.

The share of profits received by large traders is IDR 3,839,000 or 19.32%. The total marketing costs incurred by wholesalers of Rp 520,400 consist of transportation costs of IDR 260,000/buffalo or 1.31% with a margin distribution value of 3.19%, cutting costs of IDR 200,000/buffalo or 1.01% with a margin distribution value of 2.46%, costs for feed of IDR 38,000/buffalo or 0.19% with a margin distribution value of 0.47%, the cost for purchasing lime is 9,600/buffalo or 0.05% with a margin distribution value of 0.12%, the cost for firewood is IDR 1,800/buffalo or 0.01%. with a margin distribution value of 0.02%, and a cost for purchasing salt of IDR 11,000/buffalo or 0.06% with a margin distribution value of 0.14%.

The share of profit received by retailers is IDR 1,157,000 or 5.82%. The total marketing costs incurred by retailers are IDR 453,000 /buffalo consisting of transportation costs of IDR 180,000 /buffalo or 0.91% with a margin distribution value of 2.21%, car transportation costs of IDR

230,000 /buffalo or 1.16% with a margin distribution value of 2.82%, costs for feed of IDR 38,000 /buffalo or 0.19% and market levy costs of IDR 5,000 /day or 0.03% with a margin distribution value of 0.06%.

Thus, the overall show that this three-level marketing channel pattern is also profitable, but the profit share value and margin distribution value are smaller than the previous marketing channel pattern. The profit share of this two-tier channel pattern is 91.03% greater when compared to the cost share value of 8.97% and the value of the profit margin of 78.10% greater when compared to the cost margin incurred is 21.90%.

The marketing pattern through one-level institutions has the highest marketing efficiency value (Eps= 3.19) compared to the two-level marketing pattern (Eps=7.37) and the three-level marketing pattern (Eps= 8.97). However, the fact is that in the field breeders use more of a two-level marketing pattern, namely through collecting merchants and wholesalers because they are seen as faster and more practical, besides that, higher prices are obtained than selling to local consumers. This is because farmers have limitations in getting updates on the price and marketing

Farmers get a diminishing share of profits as marketing institutions increase (first pattern: 100%, second pattern: 83.61%, third pattern: 66.87 and fourth pattern: 59.03%). The marketing intermediary institutions that get the most profit share are wholesalers compared to collecting merchants and retailers. This is because large traders already know and utilize digital marketing even though it is not optimal by using social media so that large traders know more information about the price and marketing of swamp buffalo, access to information is very easy because it is outside the village. This condition proves the importance of utilizing digital marketing, although in its implementation there are still limitations such as uneven access to infrastructure and information between urban and rural populations making it difficult for farmers to fully engage in digital transformation and the lack of effective incentives and regulations for market mechanisms to play a full role. This is in accordance with [Qin et al. \(2022\)](#) that the constraints in the application of digital technology are policies and laws and regulations lagging behind the development of digital technologies and services, development goals and the interests of conflicting stakeholders, lack of inclusive information and meta-governance, unequal access to infrastructure and information between urban and rural populations, lack of incentives and regulations that are effective for market mechanisms to favor a full role and breeders' perspectives on digital technologies and services are being studied further [Yu et al. \(2020\)](#); [Yi et al. \(2021\)](#); [Yi et al. \(2018\)](#) and [Zeng et al. \(2020\)](#).

CONCLUSION

There are 4 (four) swamp buffalo marketing channel patterns, namely; direct marketing channel patterns, one-level, two-level and three-level marketing channel patterns. The importance of digital-based buffalo marketing transformation can be proven by large traders by gaining a higher share of profits compared to other intermediary traders.

ACKNOWLEDGEMENTS

Thank you to all those who have helped with this research until it can be published. Thanks to Faculty of Agriculture, Islam University of Kalimantan Muhammad Arsyad Al Banjari Banjarmasin, and Faculty of Animal Science, University of Brawijaya, Malang, East Java, and also thank you to the Government of Hulu Sungai Utara Regency, South Kalimantan Province, for granting permission and the opportunity to conduct research in its area.

The authors declare no conflict of interest.

NOVELTY STATEMENT

Swamp buffalo marketing in Hulu Sungai Utara Regency, South Kalimantan Province.

AUTHORS CONTRIBUTION

NW designed research, analyzed data, and wrote the manuscript. BH, HDU, and ESR designed research and prepared the manuscript.

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