A Beef Value Chain Strategy for Minimizing Logistic Cost in Tasikmalaya, West Java

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Abstract. *Indonesia's economy, cattle farming industry and beef pricing have failed to satisfy the community's requirements. Because of the low productivity of beef cattle, the government is forced to import beef to fulfil customer demand, one of which is imported frozen from Australia. Because of the scarcity of local beef, the average price of local beef is $8.32 per kilogram, which is more than imported beef, and local beef demand is much greater. Many people with a lower middle income find it challenging to consume beef because of the current price situation. As a result of this occurrence, research must be conducted using a value chain analysis technique to determine the source of the high price of local beef. The findings of this study potentially resulted in a 35% drop in consumer selling value from the current pricing.*

Keywords: Supply chain management; beef; value chain analisys.

Abstrak. Sektor ekonomi dan bisnis peternakan sapi serta harga daging sapi di Indonesia belum bisa memenuhi kebutuhan masyarakat. Rendahnya produktivitas sapi potong memaksa pemerintah untuk mengimpor daging sapi untuk memenuhi kebutuhan konsumen, salah satunya di impor dari Australia dalam kondisi beku. Dari kekurangan pasokan daging sapi lokal tersebut membuat harga daging sapi lokal berada di harga rata-rata $8,32 per kilo gram lebih mahal dibanding daging sapi impor, ditambah lagi peminat daging sapi lokal lebih tinggi. Dengan kondisi harga tersebut banyak masyarakat dengan penghasilan menengah ke bawah kesulitan untuk mengonsumsi daging sapi. Dari fenomena tersebut maka perlu dilakukan penelitian untuk melihat penyebab tingginya harga daging sapi lokal dengan pendekatan *value chain analysis*. Penelitian ini menggunakan metode kualitatif eksploratori. Teknik *sampling* yang digunakan adalah *snowball sampling* dengan jumlah informan sebanyak satu UKM yang bergerak dalam aliran distribusi daging sapi. Hasil dari penelitian tersebut secara teori diperoleh pengurangan nilai jual terhadap konsumen sebesar sebesar 35% dari harga sekarang.

Kata Kunci: Manajemen ratai pasok; daging sapi; analisis rantai nilai.

Introduction

Current events in different economic and commercial sectors influence the cattle industry's competitiveness (Syakur et al., 2017; Amirah et al., 2015). In 2020, the covid-19 outbreak wreaked havoc on the economy (Prayogo, 2020). One is related to the cattle industry and the comparatively high cost of meat. Based on data from *National Medium Term Development Plan* for the Food and Agriculture Sector 2021, the demand for beef in the community is growing every year. However,

due to population growth and low productivity, national beef production has been unable to satisfy rising demand.

Beef cow productivity is poor because most beef cattle are grown by small-scale breeders with limited acreage and cash (Thwala & Mathonsi, 2012; Saptana, 2017; Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI, 2015; Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI, 2016; Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI, 2017; Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI, 2020). Most beef cow ownership in communities is relatively modest, ranging between 5 and 10 heads. The community's beef cattle business is still mostly utilized as a side employment or a side business. After all, contemporary cow breeding needs a considerable investment (Saptana, 2017; Firman et al., 2018; Munro, 2018; Husted, 2020; Amirah et al., 2015).

Even though the selling price of local beef is currently around $8.32 per kilogram with an exchange rate of around Rp14.000 for $1, which is more expensive than imported beef, which costs between $. 6.46 and $. 7.17 per kilogram, people still prefer local beef to imported beef because imported beef contains ice because it is frozen from importing countries. Another reason is that local beef is fresh because it was just butchered at the slaughterhouse. Many middles- and lower-income people find it difficult to consume beef due to the current price situation (Croxton, 1905; BPS, 2018; Antara & Sumarniash, 2019; Putri et al., 2019; Abdal & Nurdin, 2020; Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI, 2020; Husted, 2020; Susila et al., 2020; Groot, 2021).

The efficiency of distribution operations has a significant impact on the retail price of a commodity. The length of the distribution chain and the amount of the profit margins imposed by each distribution chain significantly impact the efficiency of commodity distribution. The more efficient these distribution operations are, the shorter the distribution chain and the smaller the profit margin. If the length of the supply chain for beef distribution is not well handled, it might result in significant expenses, including transaction costs, transportation costs, storage costs, packing costs, damage costs, and benefits for each actor, among other things (Utomo, 2011; Saptana, 2017).

Currently, the price of meat at the retail or consumer level is mainly controlled by farmer costs, value-added expenses, transaction costs, profits of the institutions involved, and the demand-supply balance (Priyono & Hapsari, 2017; BPS, 2018; Firman et al., 2018; Ilham, 2018). The use of information flow functions calculates the percentage of each marketer involved in supply chain operations. Several factors affecting the smoothness of the distribution process up to the end customers must be considered by the beef supply chain because beef is a perishable commodity, and it necessitates the employment of successful marketing agencies. From the market price of beef to consumers, supply chain studies and pricing simulations are conducted (Purba & Hadi, 2012).

Several beef businesses participated in this study on beef supply chain engineering. The flow of the beef process from beef cow ranching to the form of beef consumed by customers and the assessment of each price along the beef value chain are the subjects of this study. The supply chain management approach was used in this research. The practice of planning, controlling, and executing product flows is known as supply chain management. It entails collecting raw materials, manufacturing the product, and delivering it to the final user most efficiently and cost-effectively as

possible. It is impossible to deny that supply chain management is a complicated set of operations. The supply chain will get more complicated as the company grows. Fortunately, it can simplify and optimize with the aid of technology (Utomo, 2011; Zhong et al., 2017; Bretzke, 2020; James, 2020).

The study was conducted in a company in Tasikmalaya - West Java. Interviews and observations were used to get processing data and other supporting materials. The purpose of the survey stage was to collect primary and secondary data. Primary data comprises the input-output structure of cattle farming, commodity and beef supply chain patterns, and supply chain management performance for cattle and beef products, such that some secondary information may be extracted from slaughterhouses in different Indonesian cities. Secondary data were obtained from related agencies in this study, namely statistical data from the *Central Bureau of Statistics*, Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI, and other related sources. Using descriptive exploratory analysis, analyze the flow in the network (bkpm, 2020; Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI, 2020).

Research Method

The descriptive analysis offers an overview of product flow, financial flow, and information flow so that the information supplied is clear and helpful to people who read it. It can be observed based on the distribution value of the sales margin in the beef supply chain. The sales margin is calculated by multiplying the consumer price by the merchant price. The share of the cost of capital and earnings are used in the margin distribution. Each link's cost share value and profit share are calculated using the marketing margin value (Groot, 2021; Jelodar et al., 2020).

The test assessed the value added to live beef cattle due to the slaughtering procedure. Information is taken from a small micro-enterprise in the process of beef industrial in Tasikmalaya – West Java. Results of interviews with Mr Andri, Mr Saeful, Mr Jujun, Mr Mubarok, and Mr Asep are used to calculate the product's added value, which includes logistics and feed expenses. Each supply chain process' marketing advantages are calculated by subtracting the selling price from the purchase price and operating expenses; the price of beef per kilogram is calculated by dividing the weight of the cow by the selling price of cattle per head or in the form of beef (Javornicky et al., 2021).

The first is primary activities, which include inbound logistics, operations, outbound logistics, marketing, and sales and services. The second is secondary activities, which include marketing, sales, and services. The following activities are support activities, which include company infrastructure, human resource management, and technological development. The primary activity is directly connected to product manufacturing and distribution. Each core task has a set of supporting activities that help them be more successful or efficient. Although the major operations directly provide value to the manufacturing process, they are not necessarily more essential than the supporting activities. Support activities help the organization attain its competitive advantage by assisting the core operations (Fisher et al., 2020).

Results And Discussion

The beef supply chain pattern depicts three flows: product, money, and information. The product flow is from upstream to downstream, from cattle breeders to beef consumers. Financial flows from the end consumer of beef to the breeders move from downstream to upstream. The information travels in two directions on each connection. Every supply chain member is involved in enhancing the value chain and performing

marketing duties as part of the supply chain structure. A value chain is a set of actions that a firm engages in to create a product or service. Four aspects support these activities: the firm's infrastructure, human resource management, technology, and procurement. Members of the supply chain are involved players who play a part in the beef supply chain. Supply chain players' contributions include sales and purchasing, operating, transportation, packaging, facility, finance, and market intelligence. The role of supply chain players is to provide beef to customers at the right time, shape, and place.

The current high price of beef has led cattle dealers to protest and refuse to sell, and this is because the price of beef surpasses the government's highest retail price of $ 8.58 per kilogram. Meanwhile, the consumer reference price for beef is $ 5.72 per kilogram. The high price stems from the government's decision to import feeder cattle, which must be fattened and killed in Indonesia. Based on the Center for Indonesian Policy Studies (CIPS) results, beef goes through seven to nine stages before reaching consumers. The farmer sells his cattle directly to local small-scale dealers or through a feedlot to begin the distribution process. The cattle are then sold to large-scale dealers who use informants for the best market price. The cattle are then sold to regional dealers with trading territories encompassing multiple districts, provinces, and tiny islands. The cows are then sold to traders at the holding ground, which is used as a transit area, while wholesalers from the slaughterhouse pick livestock to be purchased and butchered. The resultant beef might be sold directly to large-scale wholesalers or through intermediaries in the market. The beef is then sold to small-scale wholesalers, followed by merchants in traditional and modern markets, before reaching consumers. Beef output the local can only fulfil around 70% of the demand. The local meat sector continues to be unable to compete with other countries.

The Covid-19 epidemic, on the other hand, interrupted all sectors, and the introduction of different social restriction laws impacted the functioning of all sectors in nearly every country. The increase in beef prices is attributable to an increase in cattle from Australia since the end of 2020, as well as high distribution expenses due to reduced logistical capacity during the Covid-19 epidemic (Andri DP, 2021; Putra, 2020). According to the findings, each supply chain's marketing margin was between 8% and 10% on average. The marketing margin was determined by each supplier chain's operating costs and earnings. The results of the research carried out can be seen in Figure 1.

Product Flow

According to the findings, there are pathways in the product flow that allow the product to move from upstream to downstream. The product flow begins with the breeder as the primary ingredient source, which is sold to the cattle fattening industry. It is sold to small-scale dealers or collectors after increasing its weight and subsequently to large-scale traders. The following procedure is sold to regional dealers, who will store the animals in livestock shelters until they are ready to be transported to the slaughterhouse. The slaughterhouse will carry out the process of slaughtering, separating, or sorting parts of beef. The slaughterhouse performs its duties, such as checking and overseeing butchered beef every morning before selling it to large-scale wholesalers or intermediaries. Meat products will be sold to small-scale dealers as part of the distribution flow. The distribution will next be delivered to two consumer marketing venues, namely traditional market retailers and contemporary market retailers, and will ultimately end up with users.
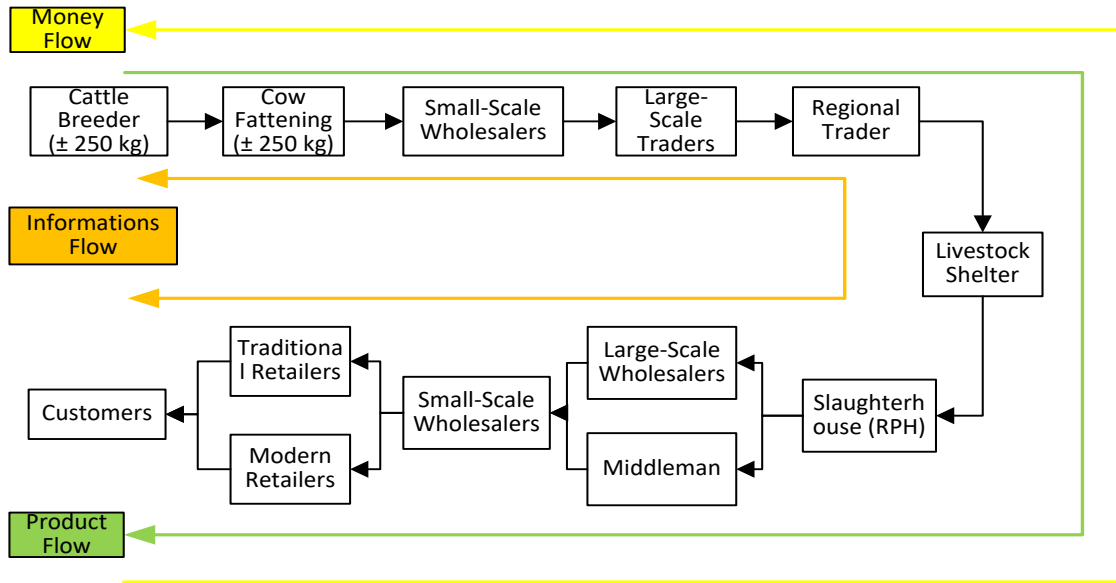
Financial Flow

According to the study, financial flows are known to have channels.

According to the payment and payment method, a financial channel pattern goes from downstream to upstream, starting with customers and ending with cattle breeders. The payment system is carried out by parties participating in the supply chain who pay cash, although some customers, ranging from conventional or modern market shops to small-scale glossers and the downstream, use credit payment systems to make payments. According to the agreement from a seller, these customers generally pay a 30% advance with a payment and a grace term.

Figure 1. Flow Chart of Beef Supply Chain in Indonesia

Cattle Breeder/Cow Fattening	– The initial weight of cow @250 kg: $ 857.94
	– The final weight of the cow @346 kg
	– The selling price of cattle to small-scale traders: $ 989.49
	– Profit/head: $ 131.55
	– The selling price of cattle/kg: 2.86
Small Scale Traders	– The selling price of cattle to large-scale traders: $ 1112.03
	– Profit/head: $ 101.09
	– The selling price of cattle/kg: $ 3.21
Large-Scale Traders	– The selling price of cattle to regional traders: 1246.83
	– Profit/head: $ 113.35
	– The selling price of cattle/ kg: $ 3.60
Regional Traders	– The selling price of cattle to Slaughterhouse (RPH): $ 1395.10
	– Profit/head: $ 126.83
	– The selling price of cattle/kg: $ 4.03
Livestock Shelter/Slaughterhouse (RPH)	– Shrinkage of cut results (± 20% - 40% weight of cattle/head): 69 Kg
	– Weight of cattle sold by RPH: 277 Kg
	– The selling price of beef to large-scale wholesalers: $ 1579.97

	– Profit/head: $ 146.63
	– The selling price of beef/kg: $ 5.71
Large-Scale Wholesalers/Middle	– The selling price of beef to small-scale wholesalers: $ 1737.99
	– Profit/head: $ 158.00
	– The selling price of beef/kg: $ 6.28
Small Scale Wholesalers	– The selling price of beef to the retailer: $ 1911.80
	– Profit/head: $ 173.80
	– The selling price of beef/kg: $ 6.91
Retailer	– The selling price of beef to customers: $ 2103.00
	– Profit/head: $ 191.18
	– The selling price of beef/kg: $ 8.32

Information Flow

All channels carry information in both directions, from downstream to upstream and upstream to downstream (Wibawa et al., 2015). Suppliers, location of beef purchase, quality of beef, the volume of beef stock, and market pricing are all part of the information flow between cattle marketing organizations. This information gives an overview of the product delivery schedule, including the arrival time of the beef product at the market location, in addition to data on the features of beef goods. Knowing marketing efficiency is one of the markers to assess the supply chain's level of success. A marketing system is efficient if it can efficiently convey items from producers to consumers at the lowest possible cost. Furthermore, marketing is effective if it can distribute a fair percentage of the total price paid by the final consumer to all parties involved in the manufacturing and marketing process. A fair share of value based on contribution and effective marketing would help supply chain participants operate better (Nuhung, 2015; Yudha Manggala P Putra, 2020).
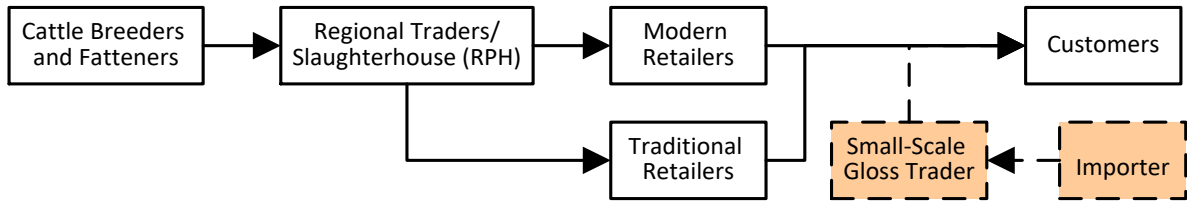
The recommended strategy is to cut the less effective chains; for example, farmers do fattening at the farmer's farm, this reduces the movement of cattle from farmers to fatteners, then to small and large scale traders and livestock shelters because the farmers will be sent directly to regional traders at the same time. slaughterhouse. Cutting the supply chain will reduce shipping costs, making beef prices more expensive. Regional traders will no longer be sent to mediators and large-scale and small-scale wholesalers but directly to modern and traditional market retailers; this will cut shipping costs, and the price of beef will be lower. The positive implication is that eliminating the supply chain above will make the price of beef cheaper; negatively, the eliminated sellers will lose their income.

**Added Value to Beef Distribution Process**

Figure 2 shows the simulation results of the added value calculation in the designed beef supply chain. According to Figure 2, the average value-added computation at the supply chain level can eliminate certain inefficient supply chains while increasing the preceding supply chain's row length. Cutting numerous supply chains can lower the selling price of beef to end customers or society, increasing welfare and encouraging buying power, particularly among those with low incomes. When comparing the ultimate selling value per kilogram of customers before and after the foundation, there is a 35 per cent difference, from $ 8.32 per kilogram to $ 6.28 per kilogram earlier. Figure 3 shows an analysis of additional value to the ultimate customer.

Figure 2. Design a Flow Chart of The Beef Supply Chain

Cattle Breeder/Fattening	– The initial weight of cow @250 kg: $ 857.94 – The final weight of the cow @346 – The selling price of cattle to regional traders: $ 1117.38 – Profit/head: $ 195.93 – The selling price of cattle/kg: $ 3.23
Cattle Breeder/Fattening	– The initial weight of cow @250 kg: $ 857.94 – The final weight of the cow @346 – The selling price of cattle to regional traders: $ 1117.38 – Profit/head: $ 195.93 – The selling price of cattle/kg: $ 3.23
Retailer	– The selling price of beef to customers: $ 1737.99 – Profit/head: $ 158.00 – The selling price of beef/kg: $ 6.28

Figure 3. Value Added Analysis Diagram in The Beef Supply Chain adopted from Gordon, 2019
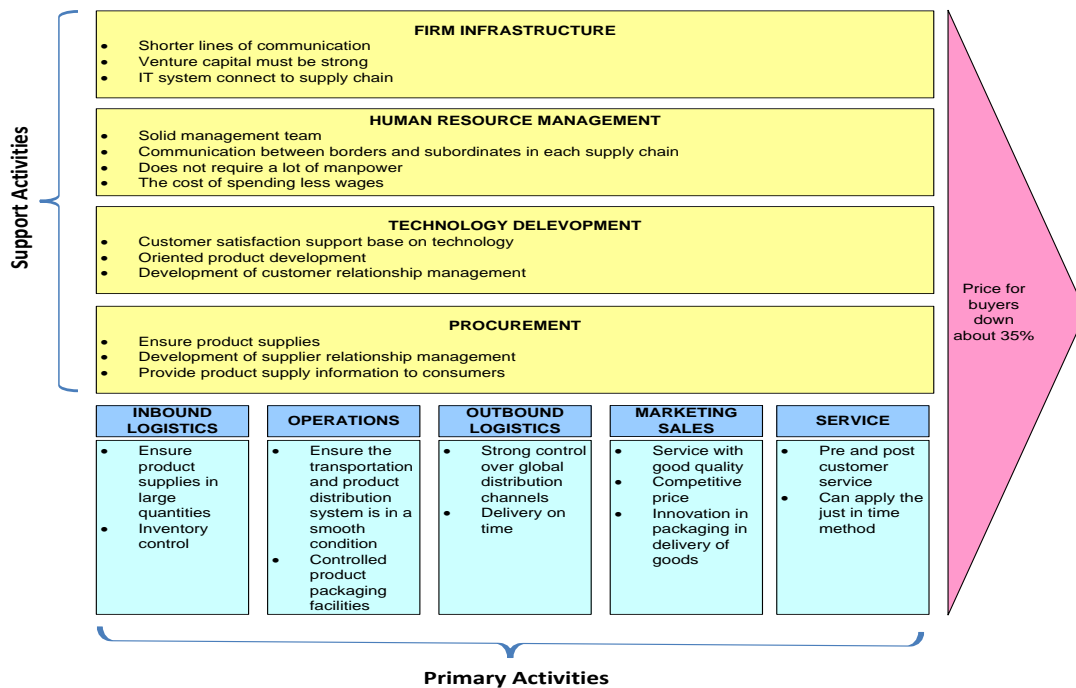
This diagram illustrates how various variables must be considered in order to reduce the price of beef for customers, including (Conway, Badiane, & Glatzel, 2019):

Support activities:

– The firm's infrastructure comprises accessible communication and information technology to manage the supply chain, but it takes significant cash to sustain.

– Human resource management entails a strong team approach and communication amongst supply chain users, resulting in fewer personnel and lower pay.

– Supporting customer happiness with technology so that it is directed toward the development of beef goods, which influences the building of positive connections with consumers, is part of technological progress.

– Procurement covers the availability of beef in order to foster consumer-customer connections by supplying beef information.

Primary activities:

– Consumer confidence in huge amounts of beef delivery and regulated beef availability are two aspects of inbound logistics.

– The availability of appropriate transportation and distribution system facilities and tidy product packaging are all part of operations.

– Outbound logistics include maintaining positive relationships with all parties involved in the distribution of cattle products in order to ensure on-time delivery.

– Marketing and sales logistics encompass a variety of services, including competitive pricing and creative packaging for ecologically friendly beef products in delivery.

– In countering surplus supply, the service comprises offering a guarantee for beef products supplied to clients and using the just-in-time technique.

The value chain analysis shows that there is still much infrastructure that needs to be upgraded, internally and externally, in terms of each company's information system. To repair the beef supply chain system, the government should intervene and provide help.

Conclusion

The implementation of the supply chain, namely product flow, financial flow, and information flow, is used according to the supply chain management method, and the beef supply chain in Indonesia still provides the opportunity to be rebuilt according to the proposal based on the findings of the research. Supply chain engineering may decrease the selling price to customers by 35% by applying this. The well-being of consumers will improve when the price of beef is reduced. The limitation of the problem in this study is that it is carried out in one supply chain cycle from the delivery of beef from an area to a city where beef is sold in Tasikmalaya.

References

Abdal, A., & Nurdin, I. (2020). Indonesia Food Security Policy: Analysis of Cattle and Beef Import Policy from Australia 2013-2017 Period. *Sosiohumaniora: Jurnal Ilmu-ilmu Sosial dan Humaniora*, *22*(1), 96–104. doi: https://doi.org/10.24198/sosiohumaniora.v22i1.23975

Amirah, Z. N., Paturochman, M., & Masdar, A. S. (2015). The Analysis of Supply Chain As Beef Distribution Agent From The Ciawitali Slaughterhouse Until End Consumer at Garut City. *Students e-Journal, 4(1)*. Retrieved from http://journal.unpad.ac.id/ejournal/article/download/5700/3027

Andri DP, Y. (2021, January 22). *Peneliti: Rantai Distribusi Daging Terlalu Panjang*. Bisnis.com. Retrieved from https://ekonomi.bisnis.com/read/20210122/12/1346637/peneliti-rantai-

distribusi-daging-terlalu-panjang

Antara, M., & Sumarniash, M. S. (2019). Behind the Volatility of Beef Price in Indonesia. *Economy, 6*(1), 1–6. doi: https://doi.org/10.20448/journal.50 2.2019.61.1.6

Badan Pusat Statistika. (2018). *Distribution of Beef Commodity Trade in Indonesia 2018*. https://www.bps.go.id/publication/2 019/02/26/833a5bbf31665ec45777 3c9c/distribusi-perdagangan-komoditas-daging-sapi-di-indonesia-2018.html.

Bretzke, W. R. (2020). Supply-Chain-Management. In: Logistische Netzwerke. Springer Vieweg, Berlin, Heidelberg. doi: https://doi.org/10.1007/978-3-662-59757-6_4

Conway, G., Badiane, O., & Glatzel, K. (2019). Value Chains, Food for All in Africa: Sustainable Intensification for African Farmers (Ithaca, NY, 2019); online edn, Cornell Scholarship Online. Retrieved from https://doi.org/10.7591/cornell/978 1501743887.003.0009

Croxton, F. C. (1905). Beef Prices. *Journal of Political Economy*, *13*(2). Doi: https://doi.org/10.1086/251126

Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI. (2015). *Statistik Peternakan dan Kesehatan Hewan Livestock and Animal Health Statistics 2015*. Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI. Retrieved from https://ditjenpkh.pertanian.go.id/sto rage/photos/shares/konten/publikasi /files/Buku%20Statistik%202015% 20FINAL.pdf

Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI. (2016). *Statistik Peternakan dan Kesehatan Hewan Livestock and Animal Health Statistics 2016*. Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI. Retrieved from https://pusvetma.ditjenpkh.pertania n.go.id/upload/statistik/1533987093 .Buku%20Statistik%202016%20Fi nal.pdf

Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI. (2017). *Statistik Peternakan dan Kesehatan Hewan Livestock and Animal Health Statistics 2017*. Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI. Retrieved from https://pusvetma.ditjenpkh.pertania n.go.id/upload/statistik/1533986276 .Buku_Statistik_2017_(ebook).pdf

Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI. (2020). *Statistik Peternakan dan Kesehatan Hewan Livestock and Animal Health Statistics 2020*. Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian RI. Retrieved from https://pusvetma.ditjenpkh.pertania n.go.id/upload/statistik/1615509509 .statistik%202020.pdf

Firman, A., Sulaeman, M. M., Herlina, L., & Sulistyati, M. (2018). Analysis of Supply and Needs Balance of Cattle and Beef in West Java. *MIMBAR AGRIBISNIS: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, *4*(2), 98-108. doi: https://doi.org/10.25157/ma.v4i2.11 22

Fisher, G., Wisneski, J. E., & Bakker, R. M. (2020). *Value Chain Analysis*. Strategy in 3D: Essential tools to

diagnose, decide, and deliver. Oxford University Press. doi: https://doi.org/10.1093/oso/978019 0081478.003.0014

Gordon, M. (2019). *Value chain. Becoming Social Entrepreneur.* Oxford Scholarship Online (pp. 194–196). doi: https://doi.org/10.4324/9780429243 189-30

Groot, E. (2021). Preference segments in beef purchase. *Revista de Economia e Sociologia Rural, 1-19.* doi: https://doi.org/10.1590/1806-9479.2021.213487

Husted, R. (2020). Husted, R. (2020). 117 Consumer perceptions of beef and beef production. *Journal of Animal Science, 98*(Suppl 3), 48. doi: https://doi.org/10.1093/jas/skaa054. 087

Ilham, N. (2018). Analysis of Supply and Demand for Beef in Indonesia. *Seminar Nasional Teknologi Peternakan Dan Veteriner*, *1*(1), 385–403. https://www.academia.edu/2877139 0/ANALISIS_PENAWARAN_DA N_PERMINTAAN_DAGING_SA PI_DI_INDONESIA_Supply_and_ Demand_Analysis_of_Beef_Meat_i n_Indonesia_NYAK_ILHAM.

Badan Koordinasi Penanaman Modal. (2020). *West Java Province Import Export Development May 2020. 36*, 804. https://www.bkpm.go.id/images/upl oads/printing/Indonesia_Investment _Guidebook.pdf

James, P. (2020). Food provisions for ancient Rome: a supply chain approach. *Routledge*. doi: https://doi.org/10.4324/9780429031 359-2

Javornicky, M., Macken-Walsh, A., & Naughton, A. (2021). Emerging Beef Producer Organisations (POs)

in the Irish Beef Sector: An Analysis of Media Coverage in the Context of Nationwide Beef Producer Protests. *Sustainability*, *13*(3), 1489. doi: https://doi.org/10.3390/su13031489

Jelodar, M. B., van Heerden, A., & Chawynski, S. (2020). An interdisciplinary perspective of conflict and relationships in construction procurement and logistics. *International Journal of Construction Supply Chain Management*, *10*(1), 30–45. Retrieved from: https://pdfs.semanticscholar.org/43 ae/100275211f7b89bad335995e1f4 901a65ff1.pdf

Munro, T. (2018). Construction supply chain integration: Understanding its applicability in infrastructure asset maintenance and renewal programmes. *International Journal of Construction Supply Chain Management*, *8*(1), 1–18. doi: https://doi.org/10.14424/ijcscm801 018-01-18

Nuhung, I. A. (2015). Achieving Cattle Meat Self-Sufficiency: Performance, Constraints, and Strategy. *Forum Penelitian Agro Ekonomi*, *33*(1), 63–80. Retrieved from https://media.neliti.com/media/publ ications/62565-none-831cc952.pdf

Priyono, P., & Hapsari, A. A. (2017). Dinamika Produksi Daging Sapi di Pulau Jawa melalui Pendekatan Ekonometrik. *Prosiding Seminar Nasional Teknologi Peternakan dan Veteriner*, 248–256. doi: https://doi.org/10.14334/pros.semn as.tpv-2017-p.249-257

Purba, H. J., & Hadi, P. U. (2012). Dinamika Dan Kebijakan Pemasaran Produk Ternak Sapi Potong Di Indonesia Timur. *Analisis Kebijakan Pertanian*, *10*(4), 361–373. doi:

http://dx.doi.org/10.21082/akp.v10n4.2012.361-373

Putra, Y. M. P. (2020, March 13). *Rantai Distribusi Daging Sapi Perlu Disederhanakan*. Republika.co.id. Retrieved from https://republika.co.id/berita/q73ckc284/rantai-distribusi-daging-sapi-perlu-disederhanakan.

Putri, R. T., Sukiyono, K., & Sumartono, E. (2019). Estimation of Indonesian Beef Price Forecasting Model. *AGRITROPICA : Journal of Agricultural Sciences*, *2*(1), 46–55. doi: https://doi.org/10.31186/j.agritropica.2.1.46-55

Prayogo, C. (2020, October 19). *Dampak Pandemi Covid-19 Terhadap Perekonomian Dunia*. Warta Ekonomi.co.id. Retrieved from https://www.wartaekonomi.co.id/read309848/dampak-pandemi-covid-19-terhadap-perekonomian-dunia-infografis

Saptana, N. I. (2017). Manajemen Rantai Pasok Komoditas Ternak Dan Daging Sapi. *Analisis Kebijakan Pertanian*, *15*(1), 83–98. doi: http://dx.doi.org/10.21082/akp.v15n1.2017.83-98

Direktorat Penelitian dan Pengembangan. (2013). *Study of Commercial Policy Strategic Comodity: Beef* https://acch.kpk.go.id/images/tema/litbang/pengkajian/pdf/Kajian-kebijakan-tata-niaga-komoditas-strategis-KPK.pdf

Susila, I., Setiaji, B., Wahyudi, H. D., & Setyawan, A. A. (2020). Supply Chain Strategy in Stabilization of Products Price: Case Study Beef Price in Indonesia. *International Journal of Supply Chain Management, 9*(4), 1055-1062.

Retrieved from https://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/5246

Syakur, M. A., Purnomo, S. H., & Hertanto, B. S. (2017). Analisis Rantai Pasokan (Supply Chain) Daging Sapi dari Rumah Pemotongan Hewan sampai Konsumen di Kota Surakarta. *Sains Peternakan*, *15*(2), 52–58. doi: https://doi.org/10.20961/sainspet.v15i2.11444

Thwala, W. D., & Mathonsi, M. D. (2012). Selection of procurement systems in the South African construction industry: An exploratory study. *Acta Commercii*, *12*(1), 13-26. doi: https://doi.org/10.4102/ac.v12i1.127

Utomo, D. (2011). Supply Chain Management Approach Strategy In The Production Process And Distribution Channels To Mango Agroindustry (Mangifera Indica) In Probolinggo District. *Agromix*, *2*(1). doi: https://doi.org/10.35891/agx.v2i1.737

Wibawa, M., S., Ambarawati, I., G., A., A., dan Suamba, K. (2015). Manajemen Rantai Pasok Jamur Tiram di Kota Denpasar. *Jurnal Manajemen Agribisnis 4*(2), 10-25. https://ojs.unud.ac.id/index.php/agribisnis/article/view/21743

Zhong, R., Xu, X., & Wang, L. (2017). Food supply chain management: systems, implementations, and future research. *Industrial Management and Data Systems*, *117*(9), 2085–2114. doi: https://doi.org/10.1108/IMDS-09-2016-0391