

Original Article

The 7P Marketing Mix to Strengthen the Madurese Cattle Market (Strategy to Increase the Competitiveness of Livestock Agribusiness in Madura Island)

¹FERY PRADANA, ²ZEF RIZAL, ³NUZULUL QURNAIN

^{1,2,3}Faculty of Economics and Business, Master of Management Study Program, University of Madura, East Java, Indonesia.

ABSTRACT: *This study examines the 7P Marketing Mix model using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. The outer model evaluation results indicate that all indicators have outer loading values greater than 0.70 and Average Variance Extracted (AVE) values above 0.50, demonstrating that convergent validity has been satisfactorily achieved. Furthermore, the Composite Reliability (CR) values for all constructs exceed 0.70, indicating high internal consistency across all research variables, namely Product, Price, Place, Promotion, People, Process, and Physical Evidence. However, several constructs exhibit Cronbach's Alpha values below 0.70, particularly Price, Place, and Promotion. This condition is still considered acceptable in the context of PLS-SEM, given the limited number of indicators and the conservative nature of Cronbach's Alpha. In testing discriminant validity, the Fornell–Larcker Criterion results show that all constructs meet the required criteria, where the square root of the AVE for each construct is greater than its correlations with other constructs. However, the HTMT (Heterotrait–Monotrait Ratio) results reveal that several inter-construct relationships exceed the recommended thresholds of 0.90 and even 0.95, such as Price–Place, Promotion–People, and Promotion–Process. This finding indicates potential conceptual overlap among these constructs, suggesting that discriminant validity has not yet been fully optimized.*

KEYWORDS: *Marketing Mix, Madura Cattle, Strategy, Agribusiness.*

1. INTRODUCTION

Madura cattle are one of Indonesia's local livestock genetic resources with significant economic, social, and cultural value. In addition to serving as a source of beef production, Madura cattle are also an integral part of the Madurese community's identity through the traditions of Karapan Sapi (bull racing) and Sapi Sonok (cattle beauty contests), which have been passed down through generations. Their adaptability to tropical environments, efficient utilization of local feed resources, and relatively good reproductive performance make Madura cattle one of the strategic livestock genetic resources supporting national food security (Nurgiantiningsih et al., 2024; Ministry of Agriculture of the Republic of Indonesia, 2024). Data from the East Java Provincial Livestock Service indicate that the Madura cattle population reaches approximately 1.16 million head, accounting for 22.83% of the total cattle population in East Java and around 6.79% of the national cattle population. This condition confirms that Madura Island is one of the main centers of beef cattle production in Indonesia (East Java Provincial Livestock Service, 2024).

Despite its large population, the Madura cattle marketing system continues to face various challenges. The lengthy marketing chain weakens farmers' bargaining power because most transactions involve intermediary traders before reaching end consumers. Cattle sales are still dominated by traditional mechanisms through collectors and livestock markets, resulting in uneven dissemination of price information. In addition, the lack of clear quality standards in the transaction processes leads to subjective negotiation of prices and traders' expertise. These situations lead to poor marketing efficiency, high transaction costs, and low agency share of discounted prices gained by the producers (Rahayu et al., 2022; Hidayat & Kusumastuti, 2023).

The burgeoning advancement of digital technology and transforming agribusinesses has opened new avenues for the enhancement of livestock markets. Through digital marketing, farmers can learn real-time price information and reach more extensive networks in the market while relying less on intermediaries. New evidence indicates that beef cattle supply chains can be made efficient with the use of digital marketing, reducing intermediaries in such a way to increase farmers' share and reach markets better. Evidence shows that digital platform-based direct marketing systems can also improve transaction transparency along with an enhanced competitive edge for smallholder livestock enterprises Salsabila et al., 2024; FAO, 2023; OECD, 2024.

On the other hand, changes in consumer behavior require sustainable livestock products with competitive prices along with guaranteed product quality and transaction service speed, providing transparent information for consumers who are more

familiar with buying goods easily. Why it matters: Modern consumers are becoming more and more discerning about product quality, food safety & security, accessibility of food products, as well as transaction experience before purchase (Kotler et al., 2022; Armstrong & Kotler, 2023). With this, the 7P Marketing Mix, which consists of Product (Products), Price (Prices), Place (Place Distribution), Promotion, People, Process, and Physical Evidence, is very suitable for assessing and designing a more modern or market-oriented marketing strategy in Madura cattle. Different papers have shown that the dimensions of the 7P Marketing Mix can be used as predictors of customers' buying decisions and consumer satisfaction, as well as customer loyalty in the agribusiness industry (Anggraini et al., 2024; Kumalasari et al.).

Previous studies of Madura cattle marketing have been concentrated on value chains, marketing efficiency, and livestock productivity or production. Studies that comprehensively integrate the 7P Marketing Mix into efforts to strengthen the Madura cattle market remain very limited. In fact, this approach can serve as a strategic instrument for enhancing the competitiveness of Madura cattle, expanding market access, increasing product value-added, and strengthening farmers' positions within the modern agribusiness system. Therefore, this study is important for formulating a 7P Marketing Mix-based marketing strategy that supports the sustainable development of the Madura cattle market in the era of digital transformation in the livestock sector (Devina et al., 2024; Zebua et al., 2024).

2. MATERIALS AND METHODS

2.1. MATERIALS AND METHODS

2.1.1. STUDY AREA AND RESEARCH PERIOD

The study was conducted on Madura Island, covering the regencies of Bangkalan, Sampang, Pamekasan, and Sumenep, which serve as the primary centers for Madura cattle development. Their period also provides data for 2026.

2.1.2. DATA SOURCES AND COLLECTION

Both primary and secondary data sources were used in this study.

Primary data were collected by distributing a questionnaire to 88 respondents using a five-point Likert scale (i.e., 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and 5 = Strongly agree).

Secondary data were collected from multiple reputable sources such as the Livestock and Animal Health Statistics records by the Ministry of Agriculture, Republic of Indonesia, reports on East Java Provincial Livestock Service condition or bhi, Balai Inseminasi Buatan, and hint) (East Java Province in Figures), and secondary statistics documents published by BPS.

2.1.3. POPULATION AND SAMPLING TECHNIQUE

Study population and sampling. The study populations included cattle farmers, livestock traders, and individual consumers who participated in the marketing of Madura cattle on the island. The sample was selected using a purposive sampling technique, i.e., respondents were chosen based on several criteria including (1) ever buying or selling Madura cattle in the last 2 years, (2) knowing marketing practices for Madura cattle, and (3) being willing to be research respondents regarding this study area.

In total, 88 respondents were included in the study. This sample size was determined to be sufficient as partial least squares structural equation modeling (PLS-SEM) analysis requires a minimum sample size according to the rules of thumb, which were generally followed in seminal PLS SEM studies. Hair and Alamer (2022) say PLS-SEM is a technique able to work with low sample sizes simply by satisfying the statistical assumption requirements of your model in predictive research. Furthermore, the "10-times rule" suggests that the minimum sample size should be at least ten times the largest number of structural paths directed toward an endogenous construct. In the present study, the endogenous construct received eight structural paths, indicating that the sample size of 88 respondents was sufficient to meet the minimum requirement for PLS-SEM analysis.

2.2. DATA ANALYSIS

2.2.1. DESCRIPTIVE ANALYSIS

Data analysis was conducted using SmartPLS 4 software. Descriptive statistics were used to depict the demographic characteristics of the responding population and their perceptions regarding research indicators.

2.3. MEASUREMENT MODEL (OUTER MODEL)

Includes:

1. Convergent Validity (Outer Loading > 0.70)**
2. AVE (Average Variance Extracted) > 0.50
3. Composite Reliability (> 0.70)
4. Cronbach's Alpha (> 0.70)
5. Discriminant Validity (HTMT and Fornell-Larcker Criterion)

3. RESULTS AND DISCUSSION

3.1. DESCRIPTIVE ANALYSIS RESULTS

TABLE 1 Mean of Each Variable

Variable	Mean	Category
Product	4,17	Strongly Agree
Price	3,84	Agree
Place	3,99	Agree
Promotion	4,09	Agree
People	4,19	Strongly Agree
Process	4,11	Agree
Physical Evidence	4,08	Agree

3.1.1. PRODUCT (MEAN = 4.17)

The Product variable shows that respondents have a very positive perception of the quality of Madura cattle being marketed. It shows that the advantages of Madura cattle in terms of high adaptability, genetic quality which is more inherent to local needs, and resistance to tropical climatic conditions, as well as socio-cultural value with active penetration are still their agenda for consumer interest. This result aligns with Nurgartiningih et al. (2024), who compiled adaptive advantages and productivity characteristics of Madura cattle that support the sustainability of smallholder livestock production in East Java. Product quality is an important advantage for the success of livestock marketing since consumers tend to choose animals that show good physical performance and health conditions. Under the 7P Marketing Mix framework of analysis, product is one of the factors listed (covering only physical goods) that affects purchase decisions, in which consumers do not fill their buckets with livestock commodity but rather its embedded benefits (Kotler et al., 2022).

3.1.2. PRICE (MEAN = 3.84)

The lowest mean value was obtained in the Price variable, but it still falls into the good category. This shows that some respondents feel the Price of Madura cattle has not completely met market expectations or purchasing power. It is prevalent in livestock goods where prices vary tremendously by season (with consequent pressures on feed expense, distribution, and longer marketing chains). The long distribution chain results in a higher consumer-level price but lowers farmers' share (Hidayat and Kusumastuti, 2023). All of these results coincide with the necessity for implementing marketing efficiency strategies through digital and direct marketing to enhance price transparency.

3.1.3. PLACE (MEAN = 3.99)

The Place part suggests that Madura cattle have quite good, but improvable market access. Over 60% of transactions are still via conventional livestock markets, intermediaries, and local marketing networks. According to FAO (2023), chapter 17, broad market access is an important driver of smallholder livestock enterprises' competitiveness. Wheeling and dealing, however, plays more of the expectation game these days, along with prices getting lowered for certain commodities. In the case of Madura Island, one way to solve this problem is by developing a digital livestock marketplace in order to access outside East Java.

3.1.4. PROMOTION (MEAN = 4.09)

Such a high Promotion value suggests that promotional activity is taking effect through improved marketing of Madura cattle. Also, product visibility has been improved through promotional activities carried out by social media, WhatsApp, and livestock communities as well as at various livestock exhibitions. This finding supports and is in line with the results of Salsabila et al. (2024), which reported that digital marketing positively affects purchasing decisions in the agribusiness sector. Promotion informs you in this digital world but also instills confidence in the consumer about the quality of the product.

3.1.5. PEOPLE (MEAN = 4.19)

People has the highest average value. The results showed that the greatest strengths in developing the Madura cattle market were the competence of farmers, traders, and marketing actors. Merchants who are adept, honest, and transparent while being able to deliver complete facts regarding the condition of livestock inspire confidence among consumers. Anggraini et al. (2024) agree that the marketing success of the 7P-based strategy is largely determined by human resources. This indicates that strengthening the capacity of human resources should be a priority in developing patterns and models for Madura cattle market development.

3.1.6. PROCESS (MEAN = 4.11)

Respondents positively perceived negotiation convenience, payment processes, and services offered to buyers. According to Devina et al. (2024), this can make their customers happy and provide thousands of new services due to fast and transparent service processes that also promote repeat purchases. In digital marketing, transactions are made easier by livestock e-marketplaces and electronic payments, along with online price information systems.

3.1.7. PHYSICAL EVIDENCE (MEAN = 4.08)

The value for Physical Evidence was very high again, meaning that the physicality of Madura cattle marketing is good. This includes practices like barn cleanliness, environmental sanitation, livestock health record keeping, and marketing provisions, according to Kotler et al. According to Muzek et al. (2022), physical evidence is seen as a direct service quality cue that consumers are able to observe prior to the purchase process.

3.2. EXOGENOUS VARIABLE

3.2.1. CONVERGENT VALIDITY (OUTER LOADING)

TABLE 2 Convergent Validity

Variable	Indicator	Outer Loading
Product	X11	0,908
Product	X12	0,883
Price	X21	0,820
Price	X22	0,818
Place	X31	0,860
Place	X32	0,865
Promotion	X41	0,863
Promotion	X42	0,864
People	X51	0,929
People	X52	0,900
Process	X61	0,912
Process	X62	0,916
Physical Evidence	X71	0,927
Physical Evidence	X72	0,944

Criteria: Outer Loading > 0,70

All indicators in this study have outer loading values above 0.70, indicating that all indicators are valid and capable of representing their respective constructs. The first test is called an outer loading test on the entire Product, Price, Place Promotion P (for product), People, Process and Physical Evidence variables which have values ranging from 0.818 to 0.944 based on these results All measured values are above the recommended minimum value of > 0.70, indicating good convergent validity across all indicators. Outer loading usually refers to a metric determining the reflective nature of indicators in PLS-SEM (Partial Least Squares Structural Equation Modeling). The values range from 0.20 to almost one; the higher the value, the stronger the correlation between indicators and latent variables. According to Hair et al. (2022; 2023) states that outer loading interpretation criteria are: ≥ 0.70 means the association between indicators with latent must be valid and reliable, meanwhile for range (0.40–0.70), indicator can still be considered in candicating but if there is possibility to improve the AVE or CR value, then remove it; while < 0.4 mean indicators must be removed.

Therefore, all indicators in this study fall into the category of strong indicator reliability. Interpretation by Variable Product (0.883–0.908): The product indicators show high validity, meaning that the measured attributes (such as quality, variety, or presentation) accurately represent the Product construct. Values above 0.90 for some indicators indicate a very strong contribution to the construct, suggesting that respondents' perceptions of the product are highly consistent and stable. Price (0.818–0.820): The Price variable shows stable outer loading values above 0.80, indicating that price perceptions—including affordability and value suitability—are well represented by the indicators. One more aspect about the input price is that it will always be indicative in nature and measured through its indicators in a stream-like manner. Place (0.860–0.865). Higher values suggest that distribution, accessibility, and availability of sales locations actually constitute the Place construct. This highlights the critical role delivery channels play in influencing consumers' decisions. Promotion (0.863–0.864): Promotion indicators are highly consistent in meaning marketing communication activities and suggest that respondents view promotional strategies similarly. 51 People (0.900–0.929): The People variable records very high values (> 0, 90), suggesting that the qualities of human resources (service, interaction, and competence) are strongly indicated by all elements considered in this construct. This indicates that the human element of service has a stronger influence on how customers see it. Process (0.912–0.916): The Process variable has very good validity, indicating that service procedures are appropriate and understood by service consumers

Operational processes are proven to be an important element of customer experience. Physical evidence (0.927–0.944): This variable has the highest values among all constructs. I mean it indicates that tangible components like facilities, environment, and appearance of services have an enormous influence on customer perception. In the case of service marketing, physical evidence plays a vital role in developing faith among consumers. In service marketing, physical evidence is a critical factor in building consumer trust.

3.2.2. AVERAGE VARIANCE EXTRACTED (AVE)

TABLE 3 Average Variance Extracted

Variable	AVE
Product	0,801
Price	0,671
Place	0,744
Promotion	0,746
People	0,836
Process	0,836
Physical Evidence	0,875

Criteria: $AVE > 0,50$

All constructs have AVE values greater than 0.50, indicating that convergent validity is fulfilled. The highest AVE value is found in Physical Evidence (0.875), which indicates that 87.5% of the variance in the indicators can be explained by the construct. The AVE values in the 7P Marketing Mix measurement model confirm that all variables have values above or equal to zero.50 which signifies strong convergent validity [38], according to Hair et al. AVE can be used to determine how much of the indicator variance a latent construct explains versus measurement error (Hair et al., 2022; 2023). Common rule of thumb: $AVE \geq 0.50$ = acceptable (convergent validity is met), while $AVE < 0.50$ = unacceptable (What it means: Indicators do not adequately represent their construct.) Thus, all constructs in this study satisfy a minimum criterion for convergent validity. Product (AVE = 0.801; Table6). This indicates that the variance in product indicators is explained by the Product construct at 80.1%. In contrast, error explains additional residual variance, or remaining variation after accounting for effects due to systematic predictors. This signifies that the product indicators are excellent representatives of their construct and, in turn, high-quality measures. Price (AVE = 0.671). The Price construct explains nearly two-thirds (67.1%) of the variance in price indicators.

This indicates that price perception is sufficiently stable and valid in reflecting its construct. Place (AVE = 0.744): A total of 74.4% of the variance in place indicators is explained by its construct. This shows that distribution and location accessibility have strong representational power. Promotion (AVE = 0.746). This value indicates that 74.6% of the variance in promotion indicators is explained by the Promotion construct. It means that promotional activities consistently form the marketing construct. People (AVE = 0.836): A total of 83.6% of the indicator variance is explained by the People construct. This indicates that location accessibility and distribution have high representational power. Promotion (AVE = 0.746). This means that the Promotion construct accounts for the variance in promotion indicators at about 74.6%. It means Promotion activity is always a portion of the marketing construct. People (AVE = 0.836). The People construct accounts for 83.6% of the variance of the indicator.

This shows that physical evidence (facilities, environment, and service appearance) is the strongest factor in shaping customer perception.

3.3. COMPOSITE RELIABILITY (CR)

TABLE 4 Composite Reliability

Variable	Composite Reliability
Product	0,890
Price	0,803
Place	0,853
Promotion	0,854
People	0,911

Criteria: $CR > 0,70$

All variables meet the internal reliability requirements because their Composite Reliability (CR) values are above 0.70. The most reliable constructs are Physical Evidence (0.933), People (0.911), and Process (0.911). Composite Reliability (CR) is used to measure the internal consistency of indicators in reflecting a latent construct. In contrast to Cronbach's Alpha, CR is arguably a better measure in the context of PLS-SEM because it accounts for the contribution (or partial weight) each indicator loading has on its underlying latent variable. According to Hair et al. (2022; 2023), the internal consistency is excellent if $CR \geq 0.90$, good when $CR \geq 0.80$ and acceptable for degrees of reliability with a value of more than or equal to 0.70 ($CR > 0.70$). Because all constructs have CR values greater than 0.70, it can be concluded that the model exhibits good internal consistency.[62] No troublesome constructs remain in the measurement model, and the reliability-sufficient requirements of the structural analysis are satisfied.

This indicates that the indicators in each variable consistently measure the same underlying concept. Physical evidence (0.933). This construct shows very high consistency in reflecting physical evidence of services such as facilities, environment, and

service appearance. This means respondents' perceptions of physical aspects are highly stable. People (0.911). This indicates that human resource quality (service, interaction, and communication) is measured with very high consistency. Process (0.911). This shows that service procedures are structurally stable and easily understood by respondents. Lowest but still reliable construct: Price (0.803). Although it is the lowest constructed among all, it also passes as a reliable category. This suggests that price perception is likely to be more heterogeneous than other constructs, yet still statistically robust.

3.3.1. CRONBACH'S ALPHA

TABLE 5 Cronbach's Alpha

Variable	Cronbach Alpha
Product	0,753
Price	0,510
Place	0,655
Promotion	0,659
People	0,805
Process	0,804
Physical Evidence	0,858

Criteria: $\alpha > 0,70$

The variables that make the cut are Price (0.510), Place 0.655), and Promotion (0.659), according to which none of them exceeded the threshold value = 70% or were simply slightly below it. However, in PLS-SEM, when a construct consists of only two indicators, Cronbach's Alpha tends to be lower. Therefore, reliability evaluation is more appropriately assessed using Composite Reliability (Hair et al., 2022).

Since all CR values are above 0.70, the constructs remain reliable. According to Hair et al. (2022; 2023), the interpretation of Cronbach's Alpha in PLS-SEM should be conducted with caution because it is sensitive to the number of indicators. Constructs with a small number of indicators (especially two-item constructs) tend to produce lower values. As a result, Composite Reliability (CR) is recommended as the primary measure of reliability.

This can be explained methodologically as follows:

First, the number of indicators is only two items, which statistically leads to lower Cronbach's Alpha values because fewer items generally reduce internal consistency estimates. Second, there is variability in respondents' perceptions. Constructs such as Price, Place, and Promotion typically reflect more heterogeneous perceptions among respondents. Third, Cronbach's Alpha tends to underestimate reliability in reflective PLS-SEM models.

Although some Cronbach's Alpha values are low, the Composite Reliability results indicate that all constructs have CR values above 0.70. In fact, several constructs fall into the very high reliability category (>0.80 and >0.90), confirming that the measurement model remains internally consistent and reliable.

3.4. FORNELL-LARCKER CRITERION

Criteria: The square root of AVE must be greater than the correlation between constructs.

TABLE 6 Fornell-Larcker Criterion

Variable	Product	Price	Place	Promotion	People	Process	Physical Evidence
Product	0,895	0,506	0,467	0,572	0,460	0,487	0,591
Price	0,506	0,819	0,714	0,604	0,560	0,466	0,460
Place	0,467	0,714	0,862	0,474	0,558	0,398	0,412
Promotion	0,572	0,604	0,474	0,864	0,741	0,775	0,625
People	0,460	0,560	0,558	0,741	0,914	0,734	0,506
Process	0,487	0,466	0,398	0,775	0,734	0,914	0,597
Physical Evidence	0,591	0,460	0,412	0,625	0,506	0,597	0,936

The Fornell-Larcker Criterion test is used to assess discriminant validity, namely the ability of a construct to be truly different from other constructs in the model. The main criteria used are: The square root of the AVE (diagonal) must be greater than the correlation between other constructs. All diagonal values (bold) are greater than the correlation between constructs. Discriminant validity based on Fornell-Larcker is declared fulfilled. Thus, it can be concluded that: Each construct in the model has a clear difference from each other. There is no multicollinearity problem between latent constructs. The model meets the requirements of discriminant validity.

3.5. HTMT (HETEROTRAIT-MONOTRAIT RATIO)

TABLE 7 HTMT

Construct	HTMT
Product ↔ Price	0,809
Product ↔ Place	0,666
Product ↔ People	0,578
People ↔ Process	0,909
Promotion ↔ People	1,012
Promotion ↔ Process	1,065
Price ↔ Place	1,236

Ideal criteria: HTMT < 0.90 (strict). HTMT < 0.95 (still acceptable)

The discriminant validity test results using the Heterotrait–Monotrait Ratio (HTMT) show that the relationships among constructs in the 7P Marketing Mix model vary in their levels of distinction. HTMT is used to ensure that each construct is truly conceptually distinct and not repeatedly measuring the same concept. In general, the results show that a few construct pairs are not above the more stringent yet acceptable value (0.90).

For example, the relationships between Product and Price (0.809), Product and Place (0.666), and Product and People (0.578) show that the Product construct is clearly distinguishable from other constructs. This indicates that respondents' perceptions of the product can still be clearly differentiated from Price, distribution, and human resource aspects. However, several construct relationships show high HTMT values that exceed the recommended threshold. The People-to-Process (0.909) relationship is slightly above the 0.90 cut-off, which shows a comparatively stronger conceptual relationship between these two variables as well. This is more intuitive in the service-domain context, since a large portion of service-process-oriented or service operations (e.g., performance) can be thematically related to human elements. In addition to that, significant discriminant validity problems regarding the combinations of constructs are recognized by Promotion and People (1.012), Promotion and Process (1.065), and Price–Place pairs (1.236). HTMT > 0.95 and quite high (>1.00) indicate a very strong conceptual overlap between these constructs

This suggests that respondents may not fully distinguish between: price and accessibility (Price–Place), promotion and human resource interaction (Promotion–People), and promotion and service process (Promotion–Process). In service marketing contexts, such conditions are relatively common because the elements of the 7P marketing mix are often integrated within the customer experience. Thus, overall HTMT results indicate that the discriminant validity of the model was not fully attained, but all constructs fulfill mostly acceptable criteria. The overlap in some constructs should be taken into consideration while interpreting the findings and enriching the model by conducting future studies, according to Henseler et al. (2015) and Hair et al. As with previous studies (2022; 2023), HTMT values above the conservative threshold of 0.90 indicate possible discriminant validity concerns and chances, which abstract constructs may no longer have true conceptual distinctness occur from a paired set whose corr. Given these results, this again highlights the need for further scrutiny on constructs that exhibit high HTMT values (particularly in service marketing of complex and highly integrated services).

3.6. OUTER MODEL EVALUATION

TABLE 8 Outer Model Evaluation

Criteria	Result
Outer Loading	Fulfill
AVE	Fulfill
Composite Reliability	Fulfill
Cronbach Alpha	Some low constructs
Fornell-Larcker	Fulfill
HTMT	Some constructs do not meet the requirements

These results align with the views of Hair et al (2022, 2023) recommended that the outer model evaluation in PLS-SEM should not be based on a single measure of reliability or validity and suggested an all-rounded approach containing measures such as outer loading, AVE; CR for convergent factor analysis (CFA), Cronbach's Alpha calculation and discriminant validities tests e.g., Fornell–Larcker test & HTMT criteria.

4. CONCLUSION

The results of the outer loading test show that all indicators have met the required minimum limit value (>0.70), so it can be stated that the indicators in the model are able to represent the latent construct well. In addition, the results of the Average

Variance Extracted (AVE) test also show that all constructs have a value above 0.50, which means that each construct can explain more than half of the variance of its indicators, so that convergent validity is met.

Composite Reliability (CR) results indicate that all constructs have met the criteria (>0.70); thus, it can be concluded that the constructs in the model have good internal consistency. However, Cronbach's Alpha results indicate that several constructs are still below the ideal standard of 0.70. This condition indicates limitations in internal consistency when measured solely using Cronbach's Alpha, which is methodologically more conservative and sensitive to the number of indicators.

The Fornell–Larcker Criterion test shows that all constructs have met the discriminant validity criteria, where the square root of the AVE of each construct is greater than the correlation between other constructs. This confirms that, in general, each construct has quite clear conceptual differences from one another.

The results of the HTMT (Heterotrait–Monotrait Ratio) test indicate that several construct pairs do not meet the ideal criteria, with HTMT values exceeding the 0.90 and even 0.95 limit. This finding indicates overlapping indicators, which could be improved in further research.

5. MANAGERIAL AND POLICY IMPLICATIONS

From a managerial perspective, the results of this study indicate that the 7P Marketing Mix model can serve as a strong foundation for managing Madura cattle marketing, as all indicators have been shown to be valid and reliable. However, the potential overlap between constructs suggests the need for a more integrated marketing strategy, particularly in linking price, Promotion, and distribution aspects to avoid confusion in market perception.

From a policy perspective, the government needs to strengthen standardization and transparency in the Madura cattle marketing system by developing a digital livestock market information system. In addition, capacity building for farmers through modern marketing training is also necessary to ensure that the implementation of the

6. LIMITATIONS AND FUTURE RESEARCH

This study has several limitations. First, the limited sample size is limited to stakeholders in Madura cattle marketing on Madura Island, which weakens the potential generalization of these findings. Second, the study is based on a cross-sectional survey, which does not allow tracking of variations in marketing performance and consumer perceptions over an extended time period. Third, there is evidence of possible redundancy among some constructs, implying that various 7P dimensions may not be quite as distinct in practice. A larger study in other livestock regions is suggested to increase generalizability. Longitudinal studies can be employed to examine marketing effectiveness over time, especially with respect to digital transformation efforts. Furthermore, future research could further specify measurement indicators or choose alternative types of models to minimize construct overlap and improve discriminant validity resulting from the 7P Marketing Mix.

REFERENCES

- [1] N. Anggraini, M. Ulfah, and V. Prianando Tambunan, "PENERAPAN BAURAN PEMASARAN 7P DALAM MENGUKUR KEPUASAN KONSUMEN KERIPIK BUAH DARSA DI BANDAR LAMPUNG," *Jurnal Penelitian Pertanian Terapan*, vol. 24, no. 3, pp. 491–503, Sep. 2024, doi: <https://doi.org/10.25181/jppt.v24i3.3719>.
- [2] G. Armstrong, and P. Kotler, *Principles of Marketing*, 19th ed, Pearson, 2023.
- [3] A. P. Devina, S. J. Raharja, and H. A. Muhyi, "Marketing Mix 7P Strategy Analysis At PT. Ayo Media Network Bandung," *Eduvest - Journal of Universal Studies*, vol. 4, no. 2, pp. 448–458, Feb. 2024, doi: <https://doi.org/10.59188/eduvest.v4i2.1030>.
- [4] 5. FAO, *Digital Technologies for Livestock Value Chains*, Rome: Food and Agriculture Organization, 2023.
- [5] 6. T. Hidayat, and T. A. Kusumastuti, "Marketing efficiency and farmer share in Indonesian beef cattle supply chains," *Journal of Agribusiness and Rural Development*, vol. 8, no. 2, pp. 145–156, 2023.
- [6] 7. Kementerian Pertanian Republik Indonesia, *Statistik Peternakan dan Kesehatan Hewan 2024*, Jakarta: Direktorat Jenderal Peternakan dan Kesehatan Hewan, 2024.
- [7] 8. P. Kotler, K. L. Keller, and A. Chernev, *Marketing Management*, 16th ed, Pearson, 2022.
- [8] 9. D. Kumalasari, Ardela Nurmastiti, and Dwi Aulia Puspitaningrum, "The Effect of 7P Marketing Mix on Purchasing Decisions For Gudeg Kaleng Bu Tjitro 1925 Original Variant at CV. Buana Citra Sentosa Yogyakarta," *Jurnal Manajemen Agribisnis dan Agroindustri*, vol. 4, no. 2, pp. 83–90, Dec. 2024, doi: <https://doi.org/10.25047/jmaa.v4i2.103>.
- [9] 10. K. Kuswati, R. Prafitri, W. A. Septian, D. Herviyanto, and R. F. Putri, "Population Structure and Production of Madura Cattle n Lenteng Subdistrict, Sumenep District, East Java Province," *BIO Web of Conferences*, vol. 88, p. 00024, 2024, doi: <https://doi.org/10.1051/bioconf/20248800024>.
- [10] 11. OECD, *Digital Transformation in Agriculture and Food Systems*, Paris: OECD Publishing, 2024.
- [11] 12. E. S. Rahayu, S. Widodo, and B. A. Nugroho, "Efficiency of cattle marketing channels in Indonesia," *Tropical Animal Science Journal*, vol. 45, no. 4, pp. 367–376, 2022.
- [12] 13. S. Salsabila, S. Azizah, and D. Aprylasari, "Unraveling the Effect of Marketing Mix 7P on Consumer Purchasing Decisions: A Study of Gerai Daging Online Store at PT. XYZ," *Journal of Agriprecision & Social Impact*, vol. 1, no. 1, Apr. 2024, doi: <https://doi.org/10.62793/japsi.v1i1.7>.

- [13] 14. M. S. Zebua, E. Zebua, and N. E. Gea, "Analisis Penerapan Strategi Marketing Mix 7P dalam Meningkatkan Volume Penjualan Pada Toko Pasar HP Kota Gunungsitoli," *Innovative: Journal Of Social Science Research*, vol. 4, no. 3, pp. 287–295, May 2024, doi: <https://doi.org/10.31004/innovative.v4i3.10457>.
- [14] 15. J. Hair and A. Alamer, "Partial Least Squares Structural Equation Modeling (PLS-SEM) in Second Language and Education research: Guidelines Using an Applied Example," *Research Methods in Applied Linguistics*, vol. 1, no. 3, Dec. 2022, Available: <https://www.sciencedirect.com/science/article/pii/S2772766122000246>
- [15] 16. Marko Sarstedt and Y. Liu, "Advanced marketing analytics using partial least squares structural equation modeling (PLS-SEM)," *Journal of Marketing Analytics*, Dec. 2023, doi: <https://doi.org/10.1057/s41270-023-00279-7>.
- [16] 17. N. Kock and P. Hadaya, "Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods," *Information Systems Journal*, vol. 28, no. 1, pp. 227–261, Nov. 2018, doi: <https://doi.org/10.1111/isj.12131>.
- [17] 18. F. Magno, F. Cassia, and C. M. M. Ringle, "A brief review of partial least squares structural equation modeling (PLS-SEM) use in quality management studies," *The TQM Journal*, vol. 36, no. 5, Dec. 2022, doi: <https://doi.org/10.1108/tqm-06-2022-0197>.
- [18] 19. J. F. Hair, G. T. M. Hult, C. M. Ringle, and M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM, 3rd ed*, Sage Publications, 2022.
- [19] 20. J. F. Hair et al., *PLS-SEM: Indeed a silver bullet*. *Journal of Marketing Theory and Practice*, 2023.
- [20] 21. M. Sarstedt, C. M. Ringle, and J. F. Hair, "Partial Least Squares Structural Equation Modeling," *Handbook of Market Research*, pp. 1–47, 2021, doi: https://doi.org/10.1007/978-3-319-05542-8_15-2.
- [21] 22. J. Henseler, C. M. Ringle, and R. R. Sinkovics, "The use of partial least squares path modeling in international marketing," *Advances in International Marketing*, vol. 20, no. 20, pp. 277–319, 2009, doi: [https://doi.org/10.1108/S1474-7979\(2009\)0000020014](https://doi.org/10.1108/S1474-7979(2009)0000020014).