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EXPLORATION AND IDENTIFICATION OF SUCCESS FACTORS OF CATTLE POPULATION INCREASE PROGRAM

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ABSTRACT

The Langsa City area is one of the 9 implementation areas of the Beef Self-Sufficiency Program (PSDS) in Aceh Province. The implementation of this activity is supported by the Upsus SIWAB Program which requires cows to be mated and uses the latest Indonesian Animal Health Information System (iSIKHNAS). This study aims to investigate and identify the factors that exist in Langsa City, Aceh Province, Indonesia. To achieve this, data was collected through surveys, field observations and in-depth interviews with key respondents and 100 farmers, using questionnaires, tape recorders, and image documentation. The focus is on identifying PSDS leveraging factors, with the object of study related to breeders, inseminators, livestock, and supporting factors. Furthermore, the data collected was carried out quantitatively using Structural Equation Modeling Partial Least Square (SEM-PLS) data analysis, and qualitatively using descriptive methods. The results showed that the condition of the livestock which was influenced by the characteristics of breeders and inseminators became a key factor in Langsa City, Aceh Province at this time. Considering these results, recommendations are made to the government to design better PSDS policies in the future.

Keywords*: cattle, inseminators, SEM, self-sufficiency.*

BACKGROUND

Cattle are one of the most important animals raised worldwide, and are known for their high milk and meat production (Letelier et al., 2022). Over thousands of years, producing many different breeds (Rajawat et al., 2022). Besides being able to provide various benefits for humans and the environment. In sustainable farming systems, they can help increase soil fertility through the natural production of their excrement (Gao et al., 2023). Furthermore, they are considered as proteins. However, the increased demand for livestock products such as meat and milk has not been matched by an adequate increase in the livestock population (Ayalew et al. 2023) . In addition, some farmers experience difficulties in keeping these animals due to high costs, and lack of knowledge about proper husbandry practices (Bilotto et al., 2021).

Langsa City is one of the cities in Aceh Province. This city has great potential for the development of cattle farming. Langsa City is located in the eastern part of Aceh Province, with an area of around 262.41 km² and a population of around 185,622 people. The total cattle population in Langsa City will reach 8,715 in 2021 (BPS, 2022). The potential for the development of cattle breeding in Langsa City is still not optimal, so it requires government involvement. The government's action to increase the cattle population is to issue a Beef Self-Sufficiency Program (PSDS), the implementation of which is regulated through the Minister of Agriculture Regulation Number: 59/Permentan/HK.060/8/2007 concerning Guidelines for Accelerating the Achievement of Beef Self-sufficiency. Aceh Province was designated as one of the 18 priority provinces for implementing PSDS through the implementation of Artificial Insemination and Natural Marriage in nine regions, namely: Aceh Besar, Pidie, Pidie Jaya, North Aceh, Bireun, East Aceh, Langsa, Aceh Tamiang and Aceh Jaya. To support government programs, it is necessary to identify the determinants of the success of a cattle business. Similar research has not been conducted in Langsa City so far, so the results of this study are urgently needed.

Identifying the critical success factors that drive effective livestock management is critical for farmers to recognize and assess the strengths and weaknesses of their farming practices (Sharma at al., 2022). This knowledge allows them to make the necessary changes and adjustments to achieve a larger goal (Wang et al., 2023). Furthermore, exploring and identifying the levers of success can help government agencies and livestock population-related agencies. Among the factors that support the success of breeders include inseminators, breeders, cattle related to artificial insemination (AI), and supporting factors. This variable includes many other factors that are very important to identify in order to determine which factors play a very important role so that policy making can be carried out correctly.

Artificial insemination (AI) is an important technique in animal reproduction, which is used to increase the population of superior quality cattle (Dalton et al., 2021). In practice, breeders choose bulls that have desirable traits such as good genetic characteristics and use their semen to artificially fertilize cows. Inseminators are critical to the success of artificial insemination, requiring an in-depth understanding of the female reproductive cycle, selection of quality bulls, and implementation of artificial insemination procedures (Lamb & Mercadante 2016). The occurrence of errors in the process can cause insemination failure and reduce the success of cattle breeding. In addition, inseminators need to have skills in managing pregnant cows, including treatment and care during miscarriages, and must be able to manage various breeds of cattle (Vartia et al., 2017). By using quality inseminators, farmers can significantly increase the success of their farms (Moore et al., 2021). Paying attention to the levers of success is critical for farmers who want to run a successful livestock business, produce good quality livestock and optimize production (Martin et al. 2020). This in turn can increase the income of farmers and improve the welfare of farming families.

Structural Equation Modeling (SEM) analysis is a multivariate statistical technique used to test causal relationships between variables by modeling latent and observational variables in a single model (Sarkar et al., 2021). This is very useful in investigating the relationship between variables within a certain theoretical framework. The advantages of using SEM are its ability to model latent and measurable variables within a single analytical framework, and to explore causal relationships between variables while taking into account latent variables that are not measured directly (Yasar et al., 2015). This technique can also be used to examine complex theoretical models, and the factors that influence the phenomenon under study. Therefore, this study aims to identify and identify the key factors that play an important role in the success of the Beef Self-Sufficiency Program (PSDS) in Langsa City, Aceh Province, Indonesia.

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RESEARCH METHODS

Study Object

This study was conducted in Langsa City, Aceh Province, to explore and identify the factors influencing the PSDS program. Focus on variables related to PSDS, including livestock inseminators, livestock, and other supporting factors. Respondents were selected using the stratified sampling method, namely: structured random sampling is done by dividing the members of the population into several sub-groups called strata, then selecting samples from each stratum. Population elements are divided into several levels (stratification) based on the characters attached to them with a minimum sample size of 100 farmers and key respondents determined using the Taro Yamane method with an error tolerance of 10%.

Data Collection Methods

Data collection was directly carried out on the object of research using questionnaires and interviews. The questionnaire method involves giving multiple choice questions to breeders and inseminators. Before being used as a field instrument, the questionnaire will be tested for validity and reliability by correlating each factor. While the interview method is done by asking questions to a number of respondents to deepen the reasons for the answers given. These methods are used to enrich the results of the study and provide references for parties related to PSDS.

Analysis Model

In this study, a path analysis model was used with the Partial Least Square (PLS) data analysis method, modified as used by (Fertier et al., 2020). SmartPLS software version 3.2.7 is used to perform PLS analysis on SEM. The following represents the SEM:

$$Y1 = b_1 X_1 + b_2 X_2 + e_1$$
$$Y2 = b_3 X_1 + b_4 X_2 + b_5 Z + b_6 Y_1 + b_7 Y_1 * Z + e_2$$

Information:

1. **X1 : Breeders**
   a. X1.1 : Age
   b. X1.2 : Start of breeding year
   c. X1.3 : Last education
   d. X1.4 : Have/have not attended training
   e. X1.5 : Type of training attended
   f. X1.6 : Understanding of cattle reproductive artificial insemination management
   g. X1.7 : Understanding of management gives birth to cattle reproduction
   h. X1.8 : Understanding of cattle reproductive feed management
   i. X1.9 : Understanding of raising cattle
2. **X2 : Inseminators**
   a. X2.1 : Inseminators person from service or own choice
   b. X2.2 : Inseminators service
   c. X2.3 : Competent inseminators

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d. X2.4 : Many Artificial insemination so that the cow is pregnant
e. X2.5 : Payment to inseminators
f. X2.6 : Complete IB equipment owned

3. **B : Path coefficient**
4. **e : Errors**
5. **Z : Supporting Factors**
   a. Z1 : Has HP
   b. Z2 : Ability to use HP
   c. Z3 : Use of HP for Artificial insemination and cattle health matters
   d. Z4 : Have records about cows
   e. Z5 : Using additional labor
   f. Z6 : Has grass land
   g. Z7 : Buying and looking for grass
   h. Z8 : Need to buy grass
   i. Z9 : Need to find grass
   j. Z10 : Get help
   k. Z11 : Get financial assistance
   l. Z12 : Gets tool assistance
   m. Z13 : Have a loan (related to livestock)
   n. Z14 : Has livestock insurance
   o. Z15 : Joined a group of breeders/farmers
6. **Y1 : Livestock related to Artificial insemination**
   a. Y1.1 : Number of cows kept
   b. Y1.2 : Number of mature bulls
   c. Y1.3 : Number of mature cows
   d. Y1.4 : Number of other cows (adolescents, calves)
   e. Y1.5 : Cattle have been sick
   f. Y1.6 : Cause of illness
   g. Y1.7 : Handling of illness
   h. Y1.8 : Cattle give birth in 1 year
7. **Y2 : Livestock**
   a. Y2.1 : The number of cows has increased due to purchases
   b. Y2.2 : The number of cows has increased due to birth
   c. Y2.3 : Income from selling cattle
   d. Y2.4 : Make/restore livestock income
   e. Y2.5 : Purchase of valuables
   f. Y2.6 : Food purchased becomes more varied/increases

In the PLS analysis, the first step is to evaluate the inner model to determine the R_{model}^2 coefficient of the dependent construct as well as the T-statistic value to test the significance of the construct in the structural model (Lima et al. 2020). After that the fit model is measured using the dependent latent variable R model ², which has the same interpretation as regression (Velasco, Werner, and Dickhoefer 2023):

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$$Rmodel^2 = 1 - (1 - R_1^2)(1 - R_2^2) \cdots (1 - R_3^2)$$

Where: R_1^2, R_2^2, R_3^2 is the coefficient of determination of endogenous variables in the model. The fit of the hypothesis model can also be determined using the Standardized Root Mean Square Residual (SRMR) and NFI values.

The SEM-PLS Model

Item scores as a basis. To evaluate the measurement model, the convergent validity of each item is analyzed by observing the magnitude of the outer loading on the associated latent variable (Chin et al. 2019). Convergent validity testing in PLS can be processed through the outer loading generated for each item (Damberg 2023). Furthermore, the SEM-PLS model was processed with SmartPLS version 3.2.7.

Discriminant Validity

Discriminant validity was tested using modified loading and square root of average (AVE) values as done by Kulikova dan Kulikov (2022) . Specifically, it can be declared valid when the cross-loading value of each particular variable item is greater than the others. The validity of each variable item studied. An instrument is said to have good Discriminant Validity if the root value of the AVE of each latent variable is greater than its correlation with other variables.

Composite Reliability

The composite reliability test measures the level of reliability between items in a construct. The results were analyzed by comparing the factors and the total variance of the items included (Chen et al. 2019) . An instrument is considered reliable and suitable for measuring the desired construct if the CR value is greater than 0.7. But it needs to be repaired if the CR value is less than 0.7.

Convergent Validity

Convergent validity is measured by testing the outer loadings to determine the validity of the questionnaire items. This is evaluated by interpreting the results of outer loading (Kaul et al. 2013) . An instrument or questionnaire can be considered to have convergent validity if all outer loading items are greater than 0.5. The statistical significance of the analysis can be tested using the Comparative Fit Index (CFI) statistical test.

Fit Model

To evaluate the suitability of the structural model to the inner model, the GoF (goodness of fit) value is used (Sheridan et al., 2021), where a value close to 1 indicates better quality. Next, the calculation of the coefficient of determination of the model is carried out. If the GoF value and the coefficient of determination (R^2) indicate the suitability of the structural model with the data, then it is concluded that the model can explain the relationship between variables in the problem under study. However, when they show a structural model mismatch with the data, the model needs to be revised or rejected.

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The Structural Model Testing (Inner Model)

The inner model is used to examine the relationship between variables in a model, and in testing the hypothesis, the T-statistic procedure by Liu et al. (2023) were employed. This model is applied to test the significance of the path coefficient between variables contained in the structural model. The T-statistic can be calculated by dividing the path coefficient by its standard error. When the T-statistic value exceeded 1.96 or was less than -1.96, the path coefficient was considered statistically significant at the 0.05 significance level.

RESULT AND DISCUSSION

Assessing the reliability between the items of the constructs that make it up (Table 1) shows that all variables have a composite reliability of more than 0.70. Thus, all measurement models used in this study already have high reliability.

Table 1. Composite Reliability Results

	Cronbach's Alpha	Composite Reliability	AVE	Results
Breeders (X1)	0.643	0.811	0.596	Reliable
Inseminators (X2)	0.927	0.945	0.776	Reliable
Supporting Factors (Z)	0.736	0.824	0.500	Reliable
Livestock (Y1)	0.868	0.912	0.725	Reliable
Programme Success (Y2)	0.773	0.872	0.702	Reliable

Table 2 shows that the highest composite condition was in the inseminator (X2) with a value of 0.945, followed by animal husbandry (Y1) with a value of (0.912). Composite results of program success (Y2) with a value of 0.872, supporting factors (Z) with a value of 0.824, and livestock (X1) with a value of 0.811. To find out more about the items that are the disclosing factors for the success of the cattle population increase program, it can be seen in their convergent validity (Table 2). Item validity as a construct measure, which can be seen from the outer loading. Items are considered valid if they have an outer loading value of 0.5 to 0.6 which is considered sufficient. the number of items per construct is not much, ranging from 3 to 7 items. Outer loading with the highest value means that the item is the most powerful/important measure in reflecting the variables being run. The loading factor value shows the weight of each item as a measure of each variable. Items with a large loading factor indicate that the item is a measure of the strongest (dominant) variable. As shown in Table 1, the highest average loading factor in the inseminator variable (X2) is 0.879, followed by livestock (Y1), breeders (X1), program success (Y2), and supporting factors (Z) which are 0.845, 0.761, 0.757, and 0.694.

Table 2. Results of Convergent Validity

Variables	Item	Description	Loading Factors
Breeders (X1)	X1.7	Understanding of bovine reproductive calving management	0.894
	X1.8	Understanding of cattle reproductive feed management	0.806
	X1.9	Understanding of cattle rearing	0.582
		Average	**0.761**
Inseminators (X2)	X2.1	Inseminators person from the agency or own choice	0.940
	X2.2	Satisfactory inseminators service	0.883
	X2.4	How many times to IB to get a cow pregnant	0.830
	X2.5	Pay to inseminators	0.935
	X2.6	Complete IB equipment	0.809
		Average	**0.879**
Supporting Factors (Z)	Z.6	Has grassland	0.688
	Z.7	Need to buy or find grass	0.712
	Z.8	Get help (funds, tools)	0.691
	Z.9	Have a loan (livestock related)	0.611
	Z.11	Joining a breeder/farmer group	0.769
		Average	**0.694**
Livestock (Y1)	Y1.1	Number of cattle kept	0.997
	Y1.2	Number of mature bulls	0.724
	Y1.3	Number of adult female cows	0.868
	Y1.4	Number of other cattle (juveniles, calves)	0.792
		Average	**0.845**
Programme Success (Y2)	Y2.3	There is income from cattle sales	0.959
	Y2.4	You create/build/repair buildings	0.614
	Y2.6	Food purchased has become more varied/increased	0.899
		Average	**0.757**

In this study there are several variables with a loading factor of less than 0.50 in the initial outer model. The loading factor is directly proportional to the effect of the variables on the measured latent variables (Aquilani et al. 2022). A low loading factor indicates an insignificant relationship with the measured latent variables. Variables with low loading factor values include age, year started raising livestock, latest education, understanding of cattle reproduction AI management, use of mobile phones for AI and health problems, having livestock records, using additional labor, cows that have been sick, causes of illness, treatment of illness, calving in one year, the number of cows increases due to purchases, the number of cows increases due to birth, and changes in farm income. These variables do not have a significant role in the success of the information technology-based cattle population increase program. This happened because the farmers in Langsa City only focused on producing cattle that were ready for sale. This resulted in farmers being more focused on understanding the management of cattle reproduction, feed management, and management of cattle reproduction. Crowe et al. (2018) said that the success of breeders must be supported by cattle

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reproductive management. Farmers who do not understand cattle reproduction will look for inseminators.

Inseminators are people who are experts in artificial insemination. The Langsa City Government also has inseminators ready to help breeders. Inseminators can also be obtained by the community independently by applying for inseminator services. Breeders can choose inseminators depending on their wishes (Vartia et al., 2017). The tendency for selection is based on the success that breeders receive from existing inseminators (Alsahaf et al., 2023). Prices issued by breeders will also affect the selection of inseminators. The results issued will be highly considered with the results obtained (Ningsi, Asnawi, and Abdullah 2020). Breeders will voluntarily provide higher costs if the cattle production results are very good.

Artificial insemination (AI) in pregnant cows is directly proportional to the chances of pregnancy and giving birth to healthy cows. Dalton et al. (2021) reported that measuring the number of AI performed on pregnant cows is an important factor in evaluating program success. To maintain the success of the artificial insemination program carried out by the government of Langsa City, the government has provided assistance to farmers through livestock extension officers. The completeness of AI equipment (gloves, semen collection, catheter or pipette, cutting and cleaning tools, and disinfectants) is very important to ensure that insemination is carried out correctly and on time. High-quality equipment is necessary to carry out the procedure safely and effectively (Barrientos-Blanco et al., 2018). A similar study conducted in India found that the use of artificial insemination is an effective technique for improving cattle breeder breeding programs, resulting in higher pregnancy rates and quality offspring (Singh & Balhara, 2016). Inseminators with more experience and training are able to achieve higher pregnancy rates, and use of high-quality AI equipment is associated with better outcomes.

Knowledge of animal feed is an important factor because it is needed to accelerate the growth of cattle. Providing cows with proper nutrition and adequate feed during the reproductive period helps ensure good health and milk production (Ouatahar et al., 2021). Without a good understanding of cattle feed management, milk production can be low, growth and development slow, and cow death (Miller-Cushon & DeVries 2017). Cattle farming, which includes cow health care, environmental management, and disease control, is also an important component of population enhancement programs. McCarthy et al. (2021) , stated that proper feed management helps prevent disease and ensures livestock stay healthy and productive. Without good knowledge of cattle farm management, this can increase the risk of death of cattle due to disease and infection (DeVries, 2019).

The supporting factor that breeders must have are grass land. A farmer who has grass land will not worry if concentrate feed is not available. The more livestock you have, the more feed you will have (Guo & Qin, 2022). In addition, the quality of grass must also be considered to maintain livestock health (Koenig et al., 2023). Proper pasture management is also important to prevent soil degradation and environmental damage, as mentioned by (Little et al., 2017). In addition, farmers must also pay attention to the availability of grass around them to avoid scarcity of feed and excessive price increases (Bork et al., 2021). Breeders also won't worry if they don't have the cost to buy concentrate feed. A farmer will really need financial assistance if he always relies on artificial feed (Agus & Widi, 2018). If there is no cost, the breeder will make loans to the closest people, banks and cooperatives. To get assistance and equipment, breeders will also be joined in livestock groups. Breeders will also exchange ideas and solve problems related to raising cattle (Arsyad et al., 2018).

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Herds are usually formed with the approval of the relevant government. A similar view was expressed by Odubote (2022), that capacity building efforts should be targeted at smallholder farmers with farming skills through the provision of complex livestock extension services that aim to integrate crop production and animal feed into feeding practices, management of communal grazing and improved access. access to veterinary services to control disease prevalence.

The number of livestock kept has a positive effect on program success (Mutenje et al. 2020). Healthy mother cows will produce healthy offspring so that the death of calves can be avoided. Healthy cows will be free from ham and disease attacks and the development process for healthy cows will be faster. To obtain healthy cows, livestock knowledge and supporting technology are needed. As stated by Moseley (2022) , farmers can buy the necessary technology such as grass cutters, medicines, or even quality bulls. However, transparent and effective financial management is needed to ensure that it is used optimally and appropriately.

Income from the sale of cattle is an important factor because it is directly proportional to the expansion of the cattle breeding business (Cowley et al., 2020). A breeder will be more enthusiastic about running a business if the results obtained are directly proportional to the effort spent. A good cattle ranch is a business that is run profitably. From the results of the profits obtained, the ability to innovate animal feed and improve livestock barn buildings will be more developed. A more varied/increased feed is also important to ensure proper growth and a quality product. Thus, breeders can increase livestock production and improve the quality of livestock products produced (Cabiddu et al. 2022). Improving farm buildings will also make it easier to manage cattle. As the cattle farming business develops, it must be supported by innovations in building stables. In order for this to be achieved, information technology is urgently needed to provide information to farmers about the wider cattle market so that they can obtain higher livestock selling prices (Agus and Widi, 2018). To know more about good predictive power, it can be seen through the fit model (Table 3).

Table 3. Model Fit Results

Variabel	Communality	R^2
Breeder (X1)	0.596	-
Inseminators (X2)	0.776	-
Supporting Factors (Z)	0.500	-
Livestock (Y1)	0.725	0.191
Programme Success (Y2)	0.702	0.363
Total	3.299	0.554
Average	0.660	0.277
Index (GoF)	0.428	

Table 3 shows that the tested model fits the observed data, as evidenced by GoF value of 0.428. A GoF value is close to 1, or at least 0.33 is considered to indicate a good fit of the estimated path model (Purwanto & Sudargini, 2021). Therefore, the structural model which explains the relationship between the three variables has good predictive ability. The variables used (breeder, inseminator, supporting factors, livestock and program success) have good predictive power in exploring and identifying the factors that reveal the success of the cattle population increase program in Langsa City. This is because these are components that must be available and interrelated (Agus & Widi, 2018). To see the effect of the correlation between each, it can be seen through the inner model (Table 4). These results indicate that Breeder (X1) has a significant effect on Livestock (Y1)

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(p <0.05) with a T value of 4.943. The relationship between Inseminators (X2) and Livestock (Y1) shows a significant effect with a T value of 5,463. The relationship between Breeder (X1) and Program success (Y2) did not show significant results (p > 0.05). Inseminators (X2) showed a significant effect (p <0.05) with Program Success (Y2) with a T value of 4.195. Supporting Factors (Z) showed a significant effect (p <0.05) with Program Success (Y2) with a T value of 2.464. The same thing is also shown by the relationship between Livestock (Y1) and Program success (Y2) showing a significant effect (p <0.05) with a T value of 3,497, while the relationship between Moderating Y1xZ and Program success (Y2) does not show significant results (p > 0.05).

Table 4. Results of Path Coefficient Testing on Inner Model

	Original Sample (O)	**St. Deviation (STDEV)**	**T Statistics (O/STDEV)**	**P Values**
R2 = 19.1%				
Breeder (X1) -> Livestock (Y1)	0.255	0.052	4.943	0.000
Inseminators (X2) -> Livestock (Y1)	0.290	0.053	5.463	0.000
R2 = 36.3%				
Breeder (X1) -> Programme success (Y2)	-0.004	0.099	0.037	0.485
Inseminators (X2) -> Programme Success (Y2)	0.404	0.096	4.195	0.000
Supporting Factors (Z) -> Programme Success (Y2)	-0.189	0.077	2.464	0.007
Livestock (Y1) -> Programme success (Y2)	0.247	0.071	3.497	0.000
Moderating Y1xZ -> Programme success (Y2)	0.018	0.058	0.312	0.378

A cattle breeder will always interact with his livestock so that the farmer will understand the needs of his livestock. Breeders will always study the characteristics of the cattle they keep so that breeders know the problems and can find solutions to any existing problems. A breeder will be able to manage feed according to the number of livestock owned (Panda et al. 2018). Breeders will also understand when to mate their cows by looking at the number of bulls and cows they have. A farmer will understand dealing with cows that give birth and care for the calves until they grow up (Reichhardt et al. 2021). Inseminators (X2) and Livestock (Y1) have an impact because an inseminator is a person who is trained and experienced and has knowledge about the reproductive cycle of livestock, correct artificial insemination techniques, and good handling of livestock. Inseminators are responsible for ensuring the health of livestock before, during and after the insemination process (Mohammed 2018). They ensure the health conditions of the female livestock are adequate to receive insemination and ensure the quality and cleanliness of the male sperm used.

A farmer will always monitor every activity and action taken on his cow. Breeders have a relationship with the success factor of increasing the cattle population in Langsa City. Cattle farmers will always try to increase their cattle production with existing technology so that the profits obtained through the sale of cattle will be even greater (Džermeikaitė, Bačėninaitė, and Antanaitis 2023). The relationship between breeders and the success of the program did not show an insignificant effect p>

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0.05, this was because the success of the program could not occur on just one factor. The same thing was also said by Agus & Widi (2018) that, an increase in the beef cattle industry will have a positive impact on the high demand for cattle and the need for technology transfer in the form of supporting factors so that livestock in Langsa City can increase. Moderating Y1xZ with the success of the program also shows an insignificant effect $p > 0.05$ this is because a farmer in Langsa City is very dependent on artificial insemination (AI) this is indicated by the importance of inseminators in the success of cattle farming in Langsa City. The same thing was said by Rauthan et al. (2022) that, artificial insemination must be carried out by the hands of skilled people, so an inseminator is urgently needed. To find out the relationship between variables in more detail, it can be seen in Figure 1.

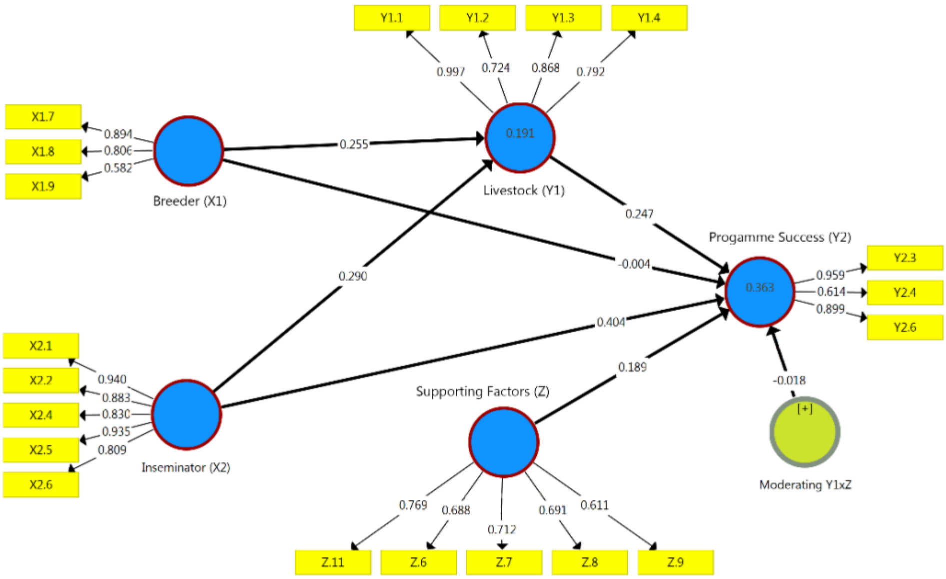

Figure 1. SEM Model

CONCLUSION AND SUGGESTION

Factors that are levers and play an important role in the success of the Beef Self-Sufficiency Program (PSDS) in Langsa City today are breeders, inseminators and livestock. To increase beef production, breeders must be equipped with sufficient knowledge through the transfer of information from livestock extension officers and related agencies. Inseminators also need to be improved so that cattle in Langsa City are able to produce quality cattle with fast growth and disease resistance. Healthy and quality cows are greatly influenced by the characteristics of the breeder and inseminator. As a recommendation material, healthy and superior livestock conditions must be achieved through improving the quality characteristics of breeders and inseminators in formulating future policies so that the results are more optimal for the sustainability and success of the Beef Self-Sufficiency Program in Langsa City.

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