

The interplay of external support, learning, and social capital in young farmers' agribusiness sustainability

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Abstract. Global food security and environmental sustainability demand innovative approaches to agribusiness, with young farmers increasingly recognized as key agents of change worldwide. This study investigates the influence of external support, learning levels, and social capital on young farmers' effectiveness and agribusiness sustainability in West Java, Indonesia. This Indonesian case study offers valuable insights into factors influencing young farmers' success and agribusiness sustainability, potentially informing policy interventions in other developing nations facing similar challenges. Data from a survey of 227 young farmers were analyzed using structural equation modelling (SEM) with SmartPLS. Results reveal a strong mediating effect of young farmers' effectiveness on the relationship between external support, learning levels, social capital, and agribusiness sustainability across economic, social, and environmental dimensions. These findings suggest that policies supporting young farmer development and capacity building are crucial for enhancing agribusiness sustainability and contributing to global food security and sustainable development goals (SDGs).

1 Introduction

The decreasing number of farmers and the increasing number of ageing farmers threaten the sustainability of development in the agricultural sector. In Indonesia for instance, between 2013 and 2023, farming households increased by 8.74 per cent. Despite this growth, the proportion of older farmers also rose. This situation proves that most farmers in Indonesia are elderly, and this shows that the younger generation's interest in working in the agricultural sector is relatively low. Hence, the process of regeneration of agricultural human resources is slow. This is certainly not in line with the conditions in Indonesia, which is currently in a demographic bonus period. The demographic advantage in Indonesia has the potential to

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revitalize the agricultural workforce. Nevertheless, the realization of this potential necessitates the resolution of obstacles.

Rural agricultural development faces obstacles, particularly concerning farmers' access to essential resources. Limitations exist in accessing production inputs, establishing partnerships and collaborations, and navigating marketing challenges. Ironically, the rise of information technology has exacerbated these inequalities, leaving many unprepared farming communities further behind. This highlights the critical need for young farmers or agricultural entrepreneurs who can bridge the gap between technological innovation and adoption, driving positive societal change within these communities.

Previous research demonstrates young farmers' significant role in involvement spans all stages—planning, implementation, monitoring, and evaluation—and, in collaboration with extension workers [1]. They also mobilize communities, disseminate innovations, and offer problem-solving solutions. Furthermore, young farmers who conduct agribusiness activities are vital in private agricultural extension, particularly in agrarian advocacy, promoting alternative agribusiness models, initiating adaptive non-agricultural business innovations, and fostering institutional development [1].

Realizing this potential, Indonesia's Ministry of Agriculture (MoA) aims to boost agricultural productivity by enhancing land and labor productivity through youth participation. MoA engages younger generations through initiatives like the Agricultural Youth Entrepreneurs Program (PWMP), aiming to cultivate 2.5 million young farmers (defined as those aged 19-39 and digitally proficient, per MoA Regulations No. 04 and 09 of 2019). This policy has resulted in the emergence of young farmers who are actively participating in agrifood systems and value chains (on-farm and off-farm) in Indonesia and mobilizing communities for positive change. These young farmers are often called “Young Social Entrepreneurs in Agriculture or Agriculture Social Entrepreneurs (ASP)”. These young ASPs are characterized by having an entrepreneurial spirit, a willingness to pursue agricultural business ventures, and a commitment to a social mission. Their success stems from their role as agents of change, addressing farmers' challenges, such as limited access to information technology, markets, resources, and government programs, obstacles to innovation and technology adoption, and networking limitations. The participation of young farmers is influenced by external support, motivation, and individual characteristics strengthened through education and training [2].

Understanding the role of young ASPs as agents of change within farming communities is crucial. Their impact on government efforts to address social issues is significant, including overcoming farmer limitations, enhancing business sustainability, accelerating farmer regeneration by inspiring younger generations, and fostering social entrepreneurship in agriculture. Existing research provides limited insights into how young farmers drive positive change despite the significant potential for transforming agri-food systems. Additional research is required to comprehend the role of young ASPs in facilitating their success. This research will assess young ASP's effectiveness as catalysts, linkers, collaborators, motivators, and connectors of needs and opportunities, focusing on their influence on technological innovation adoption. The anticipated positive societal impact includes enhanced business sustainability for farming communities.

2 Methods

This research employed a cluster random sampling design in Cianjur and Subang Regencies, West Java, Indonesia. These regencies were selected as major centres for young ASPs based on data from the West Java Department of Agriculture and the MoA. Cianjur and Subang represent West Java's northern and central zones, respectively. A sample size of 227

respondents was determined using the Slovin formula, and proportional allocation was used to distribute respondents across the two regencies (Table 1 presents population and sample sizes).

Table 1. The number of population and samples of young ASPs in Cianjur Regency and Subang Regency, West Java Province

No	Regency	Population of Young ASP (person)	Result of Sample	Rounding (person)
1	Cianjur	295	129,45	130
2	Subang	220	96,54	97
Total		515		227

Source: Ministry of Agriculture of Indonesia (2022)

Data were collected using a mixed-methods approach. Primary data were gathered through questionnaires, semi-structured interviews, and field observations, while secondary data were sourced from the Central Statistics Agency (BPS), the MoA, and relevant literature, such as books, reports and journal articles. A questionnaire survey provided quantitative data, which were analyzed alongside qualitative insights from the interviews and observations. This analysis was guided by a hypothetical model (Fig 1) exploring the factors influencing young ASPs’ roles and business sustainability.

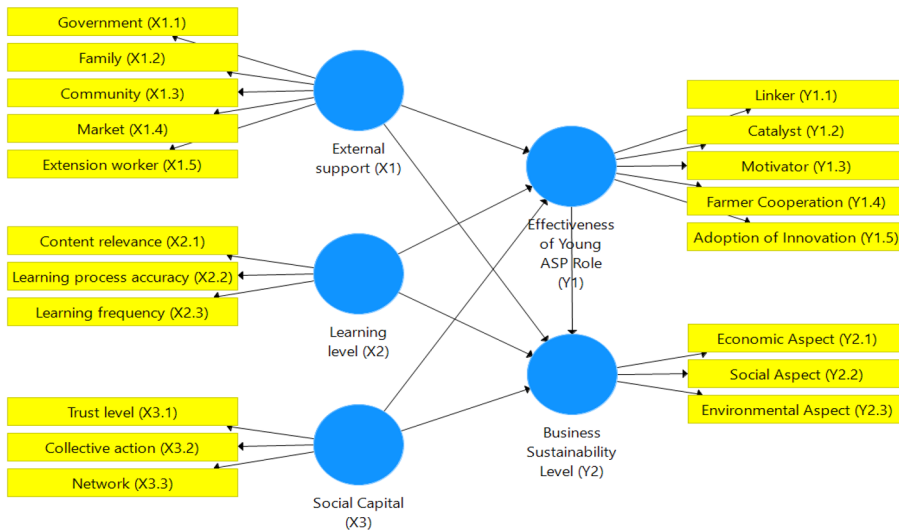


Fig. 1. Hypothetical model

Based on a literature review highlighting external support, learning levels, and social capital as key factors influencing the roles and impact of young ASPs (independent variables X1, X2, X3, respectively), this study investigated their effects on young ASPs’ effectiveness (Y1) and business sustainability (Y2) as dependent variables. Using descriptive and inferential statistical analysis and structural equation modelling (SEM) with SmartPLS, this study tested hypotheses regarding the impact of each independent variable on the dependent variables. Results are presented in the next section.

3 Result and discussion

3.1 Respondent characteristics

This study surveyed 227 young ASP farmers in Subang and Cianjur Regencies, West Java, Indonesia. Respondent characteristics (Table 2) reveal a predominantly male (75.33%) cohort, with most aged 33-39 years (41.41%), aligning with the MoA's definition of young farmers (19-39 years proficient in machinery and digital technology). Additional characteristics examined include education level and farming experience.

Table 2. Respondent characteristics

Characteristics	n	%
Gender		
Male	171	75.33
Female	56	24.67
Total	227	100
Age (years)		
19-25	34	14.98
26-32	86	37.89
33-39	94	41.41
40-46	13	5.73
Total	227	100
Level of Education		
Elementary School (6 years)	26	11.45
Middle School (9 years)	47	20.70
High School (12 years)	115	50.66
Higher Education (>12 years)	39	17.18
Total	227	100
Farming Experience (years)		
1-6 years	151	66.52
7-12 years	55	24.23
13-18 years	15	6.61
19-24 years	6	2.64
Total	227	100
Social Motivation		
Very low (0-25)	0	0.00
Low (26-50)	9	3.96
High (51-75)	144	63.44
Very high (76-100)	74	32.60
Total	227	100

Regarding education level, most respondents (50.66%) had a high school education (Table 2). With an average of six years of farming experience, respondents demonstrated substantial potential for agribusiness development. Furthermore, a strong majority (63.44%) exhibited high social motivation, driven by a desire for business growth, increased income, and community benefit through job creation, knowledge sharing, and relationship building [3].

3.2 External support by young ASPs

External support from government, family, community, market, and extension agents significantly influences the capacity and role of young ASPs in agriculture (Table 3). The average index, as shown in Table 3, shows that overall external support is at the "Moderate". While the overall level of external support is moderate, considerable variation exists across support sources. External support from various parties, including government, family, community, market, and extension workers, plays a vital role in increasing the capacity and role of young farmers as liaisons, catalysts, and motivators in agriculture.

Research shows that external support contributes significantly to the success of young farmers in managing agricultural businesses and playing a role in the farming community. This is in line with the results of Effendy's research, which noted that external support, including from extension workers and the government, has a significant influence on the participation of young farmers [3]. Strong external support fosters young farmers' roles as drivers of innovation and collaboration, enhancing agricultural productivity and entrepreneurial drive.

Table 3. Distribution, index, and categories of external support levels

External Support Level	VL (%)	L (%)	M (%)	VH (%)	Index	Category
Government	0.44	10.13	59.91	29.52	70.01	Moderate
Family	28.63	33.04	22.03	16.30	43.95	Low
Community	18.94	22.47	35.68	22.91	53.45	Moderate
Market	3.96	22.03	64.76	9.25	58.06	Moderate
Extension worker	14.98	24.23	37.00	23.79	55.80	Moderate
Average Index (%)					58.26	Moderate

Note: VL = Very Low; L = Low; M = Moderate; H = High

Category range: 0 - 25.9 (Very Low), 26 - 50.9 (Low), 51 - 75.9 (Moderate), 76 - 100 (High)

3.3 Learning levels by young ASPs

Effective learning is crucial for young ASPs to develop the knowledge, skills, and competencies needed to navigate the complexities of modern agriculture and build competitive and sustainable businesses [4]. This study assessed learning levels using three sub-variables: content relevance, learning process accuracy, and learning frequency (Table 4), providing a comprehensive understanding of learning's impact on ASPs capacity within the agribusiness sector.

As shown in Table 4, young ASPs reported a relatively high alignment between learning content (entrepreneurship, business planning, and financial management) and their business needs (average score of 64.83). Based on information from young ASPs, activities related to learning content, including building an entrepreneurial spirit, finding business ideas and models, business planning, business management, financial management, and business partnerships.

The learning process was also perceived as generally effective, with an average score of 60.01, and considered essential for fostering entrepreneurial skills and enhancing decision-making capabilities.[5]. However, learning frequency (average score of 55.75) suggests a need for increased engagement. The score indicates that young ASPs are actively participating in available learning initiatives. Nevertheless, they still require an increase in their engagement frequency. To maximize the impact of learning initiatives, more frequent participation or post-training mentoring to support knowledge implementation in business activities is recommended.

Table 4. Learning levels of young ASPs

Sub-variable	Category	n	%	Average
Learning content	Not aligned (0-25)	4	1.76	64.83
	Less aligned (26-50)	30	13.22	
	Aligned (51-75)	162	71.37	
	Very aligned (76-100)	31	13.66	
Process Accuracy	Not accurate (0-25)	8	3.52	60.01
	Less accurate (26-50)	56	24.67	
	Accurate (51-75)	131	57.71	
	Very accurate (76-100)	32	14.10	
Learning Frequency	Never (0-25)	13	5.73	55.75
	Rarely (26-50)	91	40.09	
	Often (51-75)	91	40.09	
	Always (76-100)	32	14.10	

3.4 Social capital by young ASPs

The social capital that young ASPs demonstrate in this study establishes a robust foundation for resource mobilisation and collaboration within their communities despite the potential for further development. The social capital of young ASPs in this study is moderate (average index 68.54%), as shown in Table 5. However, it exhibits substantial strengths in network formation, collective action, and trust. In this study, young ASPs are characterized by high trust (average index 68.97%), intense collective action (average index 69.21%), and extensive networks (average index 67.42%).

Table 5. Social capital of young ASPs

Sub-variable	Category	n	%	Average
Trust level	Very low (0-25)	1	0.44	68.97
	Low (26-50)	13	5.73	
	High (51-75)	156	68.72	
	Very high (76-100)	57	25.11	
Collective action	Very low (0-25)	4	1.76	69.21
	Low (26-50)	22	9.69	
	High (51-75)	124	54.63	
	Very high (76-100)	77	33.92	
Network	Very low (0-25)	4	1.76	67.42
	Low (26-50)	11	4.85	
	High (51-75)	163	71.81	
	Very high (76-100)	49	21.59	
Average index (%)				68.54

The trust level among young ASPs is notably high, with an average index of 68.97%. A significant majority (68.72%) falls into the "High" category. This strong foundation of trust is essential for fostering collaboration and effective communication within farming communities. Young ASPs often serve as intermediaries between traditional farmers and modern agricultural stakeholders, facilitating a reliable exchange of knowledge and resources. Trust is built through consistent engagement and shared experiences, such as joint training sessions and community events, which reinforce their commitment to collective goals [6].

Collective action is the strongest sub-variable, with an average index of 69.21%. This indicates that young ASPs actively engage in group-based efforts, such as forming

cooperatives and organizing community initiatives. Similarly, the network sub-variable has an average index of 67.42%, also categorized as "High". This reflects the capacity of young ASPs to build extensive connections with various stakeholders, including farmers, policymakers, and private sector actors.

The findings indicate that these young ASPs possess the potential to leverage their social relationships and collaborative efforts to drive agricultural transformation in their regions. While this social capital enables resource mobilization and partnership building, strengthening networks and collective action frameworks could further enhance their impact.

3.5 The role of young ASPs

The role of young ASPs in transforming agricultural practices in Cianjur and Subang Regencies is becoming more widely acknowledged. As shown in Table 6, a moderate average index of 56.64% is revealed by analysing their effectiveness across five important roles—linkers, catalysts, motivators, facilitators of farmer cooperation, and drivers of innovation.

Based on the research results, Young ASPs have the ability to motivate and empower farmers around them, which is very important to increase productivity and sustainability of their businesses. Young ASPs can also play a role in other things, especially in disseminating information through online media, facilitating access to resources such as fertilisers and seeds, and communicating agricultural regulations and policies.

Table 6. The role of young ASPs

Sub-variable	Category	n	%	Average
Linker	Very low (0-25)	18	7.93	56.24
	Low (26-50)	56	24.67	
	High (51-75)	124	54.63	
	Very high (76-100)	29	12.78	
Catalysts	Very low (0-25)	24	10.57	55.03
	Low (26-50)	68	29.96	
	High (51-75)	113	49.78	
	Very high (76-100)	22	9.69	
Motivator	Very low (0-25)	18	7.93	58.84
	Low (26-50)	54	23.79	
	High (51-75)	113	49.78	
	Very high (76-100)	42	18.50	
Farmer Cooperation	Very low (0-25)	17	7.49	57.46
	Low (26-50)	55	24.23	
	High (51-75)	121	53.30	
	Very high (76-100)	34	14.98	
Adoption of Innovation in Farmer Environment	Very low (0-25)	14	6.17	55.65
	Low (26-50)	69	30.40	
	High (51-75)	120	52.86	
	Very high (76-100)	24	10.57	
Average index (%)				56.64

Furthermore, young ASPs serve as motivators, inspiring both individual farmers and farming groups through practical examples of successful business practices. They also facilitate collaboration among farmers and other business partners and actively promote and support the adoption of agricultural innovations. The results of the study indicate that young ASPs can play a role and contribute to the sustainability of agricultural businesses. This is in

line with research results which explain that the younger generation can make an important contribution to the sustainability of food security and agricultural sustainability [7].

In addition, based on findings in the field, ASP as a linker, they help connect farmers with sources of innovation and help connect with loan capital. They assist farmers in choosing innovations that suit their needs, involve themselves in location-specific technology studies, socialize innovations to other farmers, and develop innovations according to their needs. Strategies focused on improving access to training and strengthening their networks should be considered to enhance their role further. The results of previous research show that increasing the participation of young farmers in agricultural development is effectively done through training that strengthens their capacity, as well as strengthening the role of farmer groups as a collaborative space that encourages the active role and independence of the younger generation in the agricultural sector [2].

3.6 Young ASPs and business sustainability

The sustainability levels of young farmers, particularly young ASPs, are critical for the future of agriculture. Table 7 reveals a complex interplay of social, economic, and environmental factors influencing their sustainability. While progress is evident, significant challenges remain.

Table 7. Index and category of business sustainability levels

Sub-variable	VL (%)	L (%)	M (%)	H (%)	Index	Category
Economic Sustainability	13.22	31.28	53.47	1.76	50.18	Low
Social Sustainability	9.69	36.12	50.22	3.96	50.17	Low
Environmental Sustainability	18.06	52.86	27.31	1.76	38.97	Low
Average Index (%)					46.21	Low

Notes: VL=Very Low; L= Low; M= Moderate; H= High

Category range: 0 - 25.9 (Very Low), 26 - 50.9 (Low), 51 - 75.9 (Moderate), 76 - 100 (High)

Economic sustainability showed the highest index (50.18). This shows that the economic aspect is very important in business sustainability, which highlights the business profits obtained, business productivity, quality of business results and number of workers. Furthermore, social sustainability, with a similar index of 50.17, highlights challenges in welfare, health, and community harmony/cohesiveness]. These social challenges are further linked to environmental aspects, as evidenced by the lowest index (38.97) for environmental sustainability.

The results of the study indicate that an integrated approach is very important to encourage sustainable agricultural practices among farmers. These results are in line with rese The level of learning also plays a vital role in increasing the effectiveness of the role of young ASPs, as indicated by the path coefficient of 0.361 (p-value: 0.000). However, the direct impact of the level of learning on business sustainability was not significant (path coefficient: -0.058, p-value: 0.550), indicating that although learning is essential for the effectiveness of ASPs, it does not directly lead to sustainability outcomes. Social capital emerged as an essential factor influencing the effectiveness of the role of young ASPs (path coefficient: 0.159, p-value: 0.000), but the direct impact of social capital on business sustainability was not significant (path coefficient: 0.037, p-value: 0.654). Thus, the structural model (inner model) results are obtained as shown in Fig. 2.

arch findings, which reveal that economic, environmental, and social factors are the main drivers of sustainable agricultural development [8].

This integrated approach combines community involvement and targeted economic support. For example, integrating environmentally friendly agricultural practices, strong environmental education programs, and community-based initiatives to improve environmental literacy and sustainable agriculture. This integrated approach should also strengthen social networks, increase access to training, and strengthen external support systems. This integrated approach should also strengthen social networks, improve training access, and bolster the external support systems identified as crucial in earlier analyses.

3.7 Measurement model evaluation

The learning level, assessed through process accuracy and learning frequency, exhibited high validity (AVE: 0.704) but relatively low internal consistency (Cronbach's Alpha: 0.581). This suggests that while the construct effectively captures learning-related outcomes, there is a need for improvements in the measurement approach. Continuous learning and adaptation are vital for agribusiness success, as highlighted by recent studies emphasizing the importance of agricultural extension services in promoting farmers' scientific fertilization behavior [9].

Table 8. Measurement model evaluation with Smart PLS

Variable	Indicator	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
External Support Level	Government	0.725	0.684	0.823	0.609
	Community	0.806			
	Extension	0.807			
Learning Level	Process Accuracy	0.848	0.581	0.827	0.704
	Learning Frequency	0.830			
Social Capital	Trust level	0.785	0.729	0.847	0.648
	Collective action	0.793			
	Network	0.836			
Effectiveness of Young ASP Role	Linker	0.870	0.916	0.937	0.749
	Catalyst	0.839			
	Motivator	0.859			
	Farmer cooperation	0.884			
	Adoption of Innovation	0.875			
Business Sustainability level	Economic	0.813	0.744	0.855	0.663
	Social	0.883			
	Environmental	0.741			

The social capital variable, defined by the level of trust, collective action, and networks, showed good reliability (Cronbach's Alpha: 0.729) and validity (AVE: 0.648). This underscores the importance of trust and collaboration in farming communities, which are crucial for resource-sharing and collective problem-solving [10]. Recent findings suggest that social networks and collective action play a significant role in improving access to agricultural extension services, further supporting the role of social capital in agribusiness. The effectiveness of the role of young ASPs, including functions such as liaison, catalyst, motivator, farmer collaboration, and innovation adoption, showed excellent reliability (Cronbach's Alpha: 0.916) and validity (AVE: 0.749).

Finally, the business sustainability level, measured across economic, social, and environmental dimensions, exhibited strong reliability (Cronbach's Alpha: 0.744) and

validity (AVE: 0.663). This underscores the balanced importance of these three dimensions in ensuring long-term agribusiness sustainability. The findings are consistent with the triple bottom-line framework, which advocates for an integrated approach to sustainability in business practices [11]. In summary, the model indicates that although some indicators fulfilled the criteria for validity and reliability, enhancing the internal consistency of specific variables would strengthen the model's overall robustness and dependability.

3.8 Structural model evaluation

The role of young ASPs in promoting business sustainability in the agribusiness sector is increasingly recognized as critical. The findings indicate that creating an enabling environment for young ASPs is essential for fostering sustainable agribusiness practices. Table 9 shows that the effectiveness of young ASPs significantly impacts business sustainability, as evidenced by a path coefficient of 0.321 (p-value: 0.000). This suggests that young ASPs play a significant role in connecting stakeholders, catalyzing innovation and motivating community engagement. They facilitate relationships between farmers and farmers, farmers and consumers, and farmers and the government, which encourage collaborative efforts towards sustainability. Furthermore, they introduce innovative practices and technologies that increase productivity while minimizing environmental impacts [12].

Table 9. Hypothesis testing results among study variables

Variable Relationship	Path Coefficient	T statistics	P values	Remarks
Effectiveness of Young ASP Role (Y1) → Business Sustainability Level (Y2)	0.321	3.705	0.000	Significant
External support (X1) → Business Sustainability Level (Y2)	0.103	1.077	0.282	Not Significant
External support (X1) → Effectiveness of Young ASP Role (Y1)	0.212	2.917	0.004	Significant
Learning level (X2) → Business Sustainability Level (Y2)	-0.058	0.599	0.550	Not Significant
Learning level (X2) → Effectiveness of Young ASP Role (Y1)	0.361	5.260	0.000	Significant
Social Capital (X3) → Business Sustainability Level (Y2)	0.037	0.449	0,654	Not Significant
Social Capital (X3) → Effectiveness of Young ASP Role (Y1)	0.238	3.718	0,000	Significant

External support is another critical factor influencing the effectiveness of young ASPs, with a path coefficient of 0.212 (p-value: 0.004). Supportive frameworks, such as government policies, community initiatives, and agricultural extension programs, are essential to empowering young ASPs [18]. Government policies can provide financial incentives and training programs that enhance the capabilities of young ASPs [13]. However, the direct impact of external support on business sustainability was not significant (path coefficient: 0.103, p-value: 0.282), indicating that the effect is indirect, and mediated through the effectiveness of the young ASP role.

The level of learning also plays a vital role in increasing the effectiveness of the role of young ASPs, as indicated by the path coefficient of 0.361 (p-value: 0.000). However, the direct impact of the level of learning on business sustainability was not significant (path coefficient: -0.058, p-value: 0.550), indicating that although learning is essential for the effectiveness of ASPs, it does not directly lead to sustainability outcomes. Social capital

emerged as an essential factor influencing the effectiveness of the role of young ASPs (path coefficient: 0.159, p-value: 0.000), but the direct impact of social capital on business sustainability was not significant (path coefficient: 0.037, p-value: 0.654). Thus, the structural model (inner model) results are obtained as shown in Fig. 2.

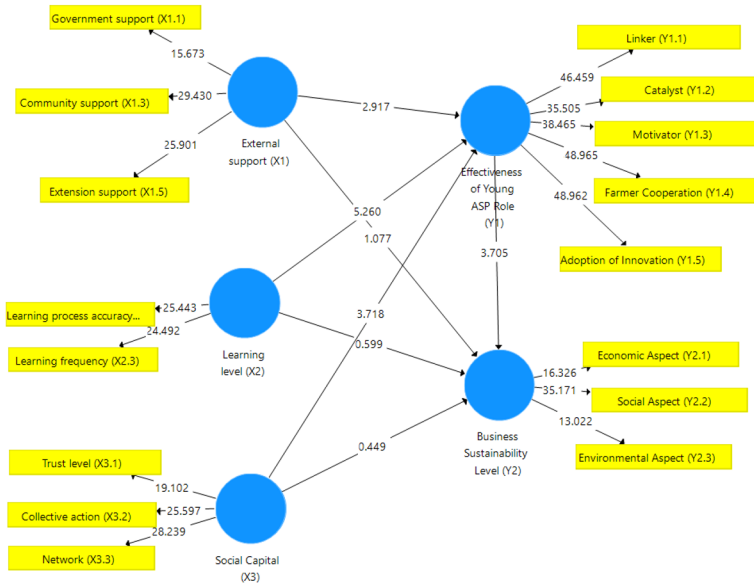


Fig. 2. Inner model test results

The findings of this study underscore the critical role of young ASPs in promoting business sustainability within the agribusiness sector. External support, learning levels, and social capital significantly influence their effectiveness. To maximise the potential of young ASPs, it is essential to create supportive frameworks that enhance their capabilities and foster collaborative networks. To maximize the potential of young ASPs, it is important to create a supportive framework that enhances their capabilities and encourages collaborative networks, as well as collaborative synergies between government, business, academia, and community participation so that social change in the community can be realized [14]. Future research should explore the longitudinal impacts of these relationships and the potential for scaling successful initiatives across different contexts.

4 Model quality

Based on the analysis results, the model demonstrates a moderate fit. The R Square value for the Business Sustainability Level (Y2) is 0.140, indicating that only 14% of the variance in Y2 can be explained by the independent variables in the model. After adjustment, the R Square Adjusted value slightly decreases to 0.125, reflecting a low contribution of the model to the variability of Y2. In contrast, the R Square value for the Effectiveness of the Young ASP Role (Y1) is 0.464, with an R Square Adjusted value of 0.456, suggesting that the model provides a relatively strong explanation for the variability of Y1. The fit summary also provides significant insights.

The Standardized Root Mean Square Residual (SRMR) value of 0.080 indicates an acceptable model fit, as it falls below the threshold of 0.10. However, the Normed Fit Index (NFI) value of 0.729 indicates that the model does not fully meet the ideal criteria (typically, a value above 0.90 is considered a good fit).

The Goodness of Fit Index (GoF) is utilized to evaluate how well the model fits overall, including the measurement and structural models. The opinion states that the Goodness of Fit (GoF) index can be determined by computing the square root of the multiplication between the average communalities and the mean of the R-squared values [15]. In this research, the mean commonality was calculated from the squared loading factors, yielding a value of 0.682, while the mean R-square was 0.302, which generated a GoF index of 0.454. Boasting a GoF value of around 0.454, this model illustrates a satisfactory degree of goodness of fit, suggesting that it offers a consistent and dependable interpretation of the data and underlines its strength for additional analysis.

Overall, the model is better at explaining the variability in Y1 compared to Y2. However, there is room for improvement to enhance the quality of the model, particularly in increasing the R Square value for Y2 and improving fit indices such as NFI to ensure the model's robustness and reliability.

5 Conclusion

This study demonstrates the critical mediating role of Young Social Entrepreneurs in Agriculture or Agriculture Social Entrepreneurs (ASPs) in achieving agribusiness sustainability across economic, social, and environmental dimensions. External support, learning levels, and social capital all significantly and positively influence ASP effectiveness. However, these factors only indirectly impact sustainability through their influence on ASPs' actions. While learning level positively impacts ASP effectiveness, it does not directly affect business sustainability. These findings highlight the need for targeted interventions to strengthen external support, enhance learning opportunities, and foster social capital among young ASPs to maximize their contribution to sustainable agribusiness. Further research should explore the generalizability of these findings across diverse contexts.

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