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Socio-Economic Determinants of Agrarian Succession: A Logistic Regression Analysis of Youth Aspirations in Indonesian Coffee Home Industries

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A B S T R A C T

The global coffee supply chain relies heavily on smallholder farmers, yet agrarian communities face a crisis of generational succession. This study investigates the aspirations of rural youth in Pagaralam, South Sumatra, and the socio-economic mechanisms driving their reluctance to inherit family-owned coffee home industries. A cross-sectional quantitative survey was conducted among 200 respondents aged 16–30 from coffee-farming households. To target established enterprises, a purposive sampling strategy was utilized. Data were collected using validated structured questionnaires. A binary logistic regression analysis was employed to identify predictors of generational succession intent. Only 24.5% (n = 49) of respondents expressed a definitive intent to continue the family business, whereas 61.0% (n = 122) preferred urban or digital employment. The predictive model demonstrated a strong fit (Nagelkerke R-squared = 0.428). Significant negative predictors for succession included higher educational attainment (Odds Ratio = 0.30, p-value < 0.001), perceived income volatility (Odds Ratio = 0.32, p-value < 0.01), and the perceived low social status of farming (Odds Ratio = 0.45, p-value < 0.05). Conversely, access to agricultural modernization technology was a strong positive predictor (Odds Ratio = 3.15, p-value < 0.01). In conclusion, youth out-migration from the coffee sector is strongly associated with structural economic barriers and shifting cultural aspirations rather than a lack of foundational knowledge. Securing the future of these industries requires targeted interventions that integrate technological innovation to rebrand coffee processing as a lucrative, high-status entrepreneurial endeavor.

1. Introduction

The global agricultural sector is currently experiencing a profound and unprecedented demographic transition characterized by the rapid aging of the farming population and a concurrent, steep decline in youth participation. This structural shift, deeply intertwined with broader patterns of global industrialization and modernization, fundamentally alters the labor dynamics that have sustained rural societies for centuries. This phenomenon, often termed the agrarian dilemma, poses a severe and multifaceted threat to international food security, the stability of global supply chains, and the long-term sustainability of rural economies worldwide. As older generations of farmers approach retirement or pass away, the absence of a willing and capable younger generation to inherit and manage agricultural assets creates a perilous vacuum in primary production. In developing nations that remain heavily reliant on the cultivation and export of cash

crops, such as Indonesia, the socio-economic implications of this demographic shift are particularly acute and warrant rigorous scholarly investigation.[1,2]

Indonesia stands as one of the world's leading coffee producers, occupying a central role in the global commodities market. Unlike highly industrialized agricultural systems characterized by massive corporate estates, the vast majority of Indonesia's coffee output is generated by smallholder farmers and decentralized, home-based industries. These small-scale operations are the backbone of the national agricultural economy, providing livelihoods for millions of rural households while contributing significantly to the country's export revenues. However, the reliance on family-based labor models makes this sector inherently vulnerable to disruptions in generational succession. When the chain of inherited knowledge, land, and operational capacity is broken, the entire production network faces the risk of systemic collapse.[3]

Within this national context, the province of South Sumatra, specifically the fertile highland region of Pagaralam, is renowned for its prolific robusta coffee production. The geography and climate of Pagaralam provide optimal conditions for robusta cultivation, allowing the local industry to not only anchor the regional economy but also serve as a critical repository of cultural heritage. For generations, the cultivation, harvesting, and processing of coffee have been deeply embedded in the social fabric of Pagaralam, with agronomic knowledge and entrepreneurial practices passed down through familial lineages. The home industry model prevalent in this region is unique; it encompasses both the raw agricultural production in the fields and the entrepreneurial, value-added processing occurring within the household domain, including drying, hulling, roasting, and preliminary trading.

Despite the profound historical and economic significance of coffee farming in Pagaralam, these local home industries are currently facing an existential threat driven by the widespread reluctance of the younger generation to assume agricultural roles. The pervasive narrative of rural-to-urban migration has structurally reoriented the life trajectories of rural youth. Growing up amidst increasing global connectivity, these young individuals increasingly view agriculture not as a viable or respectable career path, but rather as a sector of last resort. This perception is rooted in the empirical realities of traditional farming, which is characterized by arduous manual labor, high exposure to unpredictable climate risks, and chronically stagnant financial returns.[4,5] The escalating impacts of global climate change, manifesting in erratic rainfall and prolonged droughts in Sumatra, have further heightened the precariousness of crop yields, making agricultural livelihoods appear excessively risky to a generation highly sensitive to economic security.

Consequently, rural youth are decisively reorienting their aspirations toward urban centers, seeking employment in the industrial, formal service, or burgeoning digital sectors. Cities represent not only the promise of stable, salaried income but also access to modern amenities, upward social mobility, and a lifestyle that aligns with contemporary global youth culture. This out-migration process acts as a severe structural drain on rural communities, systematically stripping them of human capital, physical vitality, and innovative potential. As the most educated and dynamic individuals depart, the management of coffee plantations and processing facilities is left entirely to an aging demographic. This older cohort often possesses limited physical endurance and a reduced capacity or willingness for technological adaptation, leading to the stagnation of processing techniques and a gradual decline in overall productivity and market competitiveness.[6,7]

Previous literature concerning agrarian succession and rural out-migration has predominantly focused on structural and macro-economic factors. Theoretical frameworks have largely relied on traditional push-

pull models, emphasizing the economic push factors of rural poverty, land fragmentation, and credit constraints, alongside the macro-level pull factors of urban industrialization and wage differentials. While these structural analyses provide foundational context, there remains a critical and substantial gap in understanding the nuanced, micro-level socio-cultural mechanisms that shape youth aspirations within the specific context of cash-crop home industries in Southeast Asia. The decision of a young individual to abandon the family farm and reject business succession is rarely a simple, rational economic calculation based solely on potential income. Rather, it is deeply intertwined with changing educational paradigms, expanding access to modern information infrastructure, and the evolving, subjective social prestige associated with agricultural labor. Furthermore, the unique position of home industries—which bridge the gap between primary raw agricultural production and secondary entrepreneurial processing—offers a distinct socio-economic environment that has been significantly under-researched compared to traditional, pure subsistence farming. Home industries require a blend of agronomic skill and business acumen, yet they are still frequently conflated with backward, peasant labor in the minds of the youth.[8]

The novelty of this research lies in its deliberate application of a comprehensive aspiration-capacity framework to the study of smallholder cash-crop processing. This theoretical lens moves beyond mere economic determinism, acknowledging that aspirations are socially constructed and highly sensitive to cultural environments, peer networks, and perceived societal hierarchies. By utilizing this framework, the present study provides critical empirical evidence on how the complex intersection of perceived income volatility, occupational social status, and technological access directly influences the agrarian dilemma in Sumatra. This study explicitly aims to quantify the current career aspirations of rural youth in Pagaralam and rigorously analyze the underlying socio-economic and perceptual mechanisms that determine their willingness—or lack thereof—to engage in generational succession within the coffee home industry.

To fulfill this overarching aim and systematically interrogate the mechanisms driving this demographic shift, the following four hypotheses were formulated and empirically tested:

Hypothesis 1: Higher educational attainment is negatively associated with the intent to succeed in the family coffee business. This hypothesis is grounded in human capital theory and the concept of opportunity costs. As rural youth achieve higher levels of formal education, particularly at the tertiary level, their professional expectations and skills diverge from the requirements of traditional home-based coffee processing. The educational system often inherently promotes urban-centric, white-collar career trajectories as the ultimate markers of success. Consequently, the opportunity cost of returning to the village to manage a family farm becomes prohibitively high. Highly educated youth perceive that their acquired skills will yield a greater return on investment in the urban service or corporate sectors, leading to a direct negative correlation between advanced educational attainment and agrarian succession.

Hypothesis 2: Higher perceived income volatility significantly decreases the log-odds of succession intent. Agricultural commodity markets, particularly for export crops like robusta coffee, are notoriously volatile, subject to the whims of global supply chains, international trade policies, and macroeconomic shocks. When coupled with the localized uncertainties of weather patterns and biological threats to crop health, the income generated from coffee home industries can fluctuate wildly from year to year. This hypothesis posits that contemporary rural youth exhibit a high degree of risk aversion regarding their future livelihoods. Having observed the financial stress

and precariousness experienced by their parents, youth who perceive the coffee industry as highly volatile will actively seek the financial predictability and security of salaried urban employment, thereby rejecting succession.

Hypothesis 3: The perception of farming as a low social status occupation is negatively associated with succession intent. Beyond material income, occupational choice is deeply driven by the desire for social recognition and prestige. In many rapidly developing societies, modernization narratives have inadvertently stigmatized manual agricultural labor, framing it as the antithesis of progress. This hypothesis suggests that youth internalize these societal hierarchies, viewing farming not as a noble tradition or a viable entrepreneurial venture, but as dirty work associated with lower socio-economic classes and a lack of sophistication. If a young individual perceives that taking over the family coffee business will result in a degradation of their social standing among their peers and the broader community, they will be significantly less likely to express an intent to succeed, regardless of the potential profitability of the enterprise.

Hypothesis 4: Access to modernization technology significantly increases the log-odds of succession intent. While the preceding hypotheses focus on the push factors driving youth away, this final hypothesis explores a critical mechanism for retention. The integration of advanced technology—ranging from automated processing machinery and precision agriculture tools to digital marketing platforms and e-commerce—has the potential to fundamentally transform the nature of agricultural work. By reducing the physical burden of manual labor and increasing the efficiency and profitability of the processing phase, technology can rebrand the coffee home industry from a traditional, stagnant chore into a modern, innovative agribusiness. This hypothesis argues that youth who have access to and are familiar with these modernizing technologies will no longer view succession through a deficit lens. Instead, they will recognize the opportunity for high-status entrepreneurship, resulting in a significant increase in their willingness to inherit and modernize the family operation.

2. Methods

To systematically investigate the complex socio-economic factors influencing generational succession within agricultural communities, this research employed a cross-sectional quantitative research design. This methodological approach was selected for its proven efficacy in capturing a specific, detailed snapshot of a population's attitudes, career intentions, and structural realities at a distinct point in time. The empirical investigation was geographically situated in Pagaralam, a highland municipality located in the province of South Sumatra, Indonesia. Pagaralam was purposefully chosen as the primary study site due to its extensive, multi-generational history of robusta coffee cultivation and its uniquely high concentration of family-operated coffee processing home industries. Conducting the study within this specific agrarian enclave provided an ideal natural laboratory to observe the micro-level dynamics of agricultural succession. The temporal scope of the primary data collection spanned a continuous six-month period between March and August 2025. This specific timeframe was strategically designed to align with the regional primary harvest and processing seasons, thereby ensuring that the respondents were actively engaged in or directly observing the daily operational realities of the local coffee industry.

The target population for this empirical investigation comprised rural youth, strictly defined chronologically as individuals ranging between the ages of 16 and 30 years old. Furthermore, strict inclusion criteria dictated that these individuals must currently reside in households that actively own and operate a coffee home industry. To accurately capture this specific demographic profile, a purposive sampling technique was utilized, resulting in the

successful selection of 200 respondents distributed across five major coffee-producing sub-districts within the Pagaralam municipality. The implementation of a purposive, non-probability sampling strategy was not a matter of convenience, but rather a fundamental methodological necessity. The central research questions required participants exclusively from households where the primary source of economic income had been consistently derived from coffee farming or post-harvest processing for a minimum continuous duration of ten years. This specific, longitudinal economic parameter is highly specialized and is not readily identifiable or extractable via general municipal census frames or standardized national demographic databases. Consequently, traditional probability sampling methods, such as simple random or stratified sampling, were deemed entirely unfeasible, as their application would have resulted in a high inclusion rate of households lacking the necessary generational depth and reliance on the coffee trade. By employing purposive sampling, the research team ensured that every single respondent possessed the requisite lived experience and proximity to the agrarian dilemma being studied.

To guarantee the statistical robustness of the study and to rigorously justify the final sample size, an a priori power analysis was executed prior to the commencement of data collection using G*Power software. In the context of predicting categorical outcomes, the research relied on a binary logistic regression model incorporating five distinct independent predictor variables. The parameters for the statistical power analysis were established according to stringent academic standards: an alpha level of 0.05 to control for Type I errors, and a desired statistical power of 0.80 to ensure an eighty percent probability of correctly rejecting the null hypothesis when a true effect exists within the population. Assuming an anticipated medium odds ratio effect size of 1.5, the computational output determined that a minimum required sample size of N = 148 was necessary to achieve the desired statistical thresholds. Ultimately, the study successfully recruited and retained an acquired sample of N = 200. This deliberate oversampling beyond the minimum required threshold provided substantial statistical power, effectively minimizing the risk of Type II errors and significantly enhancing the capacity of the research findings to generalize accurately within the studied geographic and socio-cultural context.

The primary data were gathered through the deployment of researcher-administered structured questionnaires. Utilizing a researcher-administered approach, rather than relying on self-administered modalities, ensured a consistently high response rate, minimized the occurrence of missing data points, and allowed trained field enumerators to clarify any complex terminology related to socio-economic perceptions, thereby enhancing the overall quality and reliability of the collected data. Prior to the main phase of data collection, the survey instrument was subjected to a comprehensive psychometric validation process. To establish construct validity, an Exploratory Factor Analysis utilizing Principal Component Analysis with Varimax orthogonal rotation was conducted on all perceptual items. The suitability of the data for structure detection was confirmed by the Kaiser-Meyer-Olkin measure of sampling adequacy, which yielded a strong value of 0.82. Concurrently, Bartlett's test of sphericity returned a highly significant result with a p-value of less than 0.001, conclusively indicating that the correlation matrix was not an identity matrix and that the variables were sufficiently related to warrant factor analysis.

The survey instrument was specifically designed to measure several underlying latent constructs using standardized 5-point Likert scales, ranging from strong disagreement to strong agreement. The internal consistency and reliability of these constructs were rigorously evaluated and proven to be highly robust. The construct of Perceived Income Volatility, which

was measured using four distinct items assessing the respondent's views on the unpredictability of annual crop yields and the fluctuations of global market prices, demonstrated excellent reliability, yielding a Cronbach's alpha of 0.85 and a McDonald's omega of 0.86. Similarly, the construct measuring the Perceived Social Status of Farming, operationalized through five items assessing the degree of community respect and the modern career prestige associated with agricultural labor, also exhibited strong internal consistency, producing a Cronbach's alpha of 0.81 and a McDonald's omega of 0.83. The inclusion of McDonald's omega alongside the traditional Cronbach's alpha provided a more precise estimate of construct reliability by not assuming tau-equivalence among the measured survey items.

The precise operationalization of variables is critical for the integrity of any predictive modeling. The primary dependent variable for the investigation was the respondent's Intent to Succeed the family agricultural business. To facilitate binary logistic regression analysis, this outcome variable was coded dichotomously, assigning a numerical value of 1 for an affirmative intent to succeed and a value of 0 for a negative intent or a preference for out-migration. The independent predictor variables were operationalized utilizing a necessary mix of continuous and categorical data structures. Age was recorded as a continuous variable measured in exact chronological years. Education Level was structured as a dummy-coded categorical variable, where a value of 1 indicated the successful attainment of a Higher Education Diploma or Degree, and a value of 0 represented the completion of Senior High School or any lower educational tier. The perceptual variables, specifically Perceived Income Volatility and Perceived Low Social Status, were treated as continuous variables derived from the calculated mean scores of their respective validated Likert constructs, creating a quantifiable spectrum from 1 to 5. Lastly, Access to Modernization Technology was operationalized as a dummy-coded categorical variable, assigning a 1 to signify high access to modern processing tools and digital market platforms, and a 0 to denote low or completely absent access.

Following data collection and data cleaning procedures, the empirical data were analyzed using specialized statistical software to ensure computational accuracy. The analytical procedure commenced with the calculation of comprehensive descriptive statistics to profile the fundamental demographic characteristics of the sample population. Subsequently, Pearson correlation coefficients were calculated to systematically assess the bivariate relationships existing between all continuous and ordinal variables. This crucial statistical step also served as a rigorous screening mechanism for multicollinearity, ensuring that the independent variables were not excessively correlated with one another prior to modeling. To empirically understand the multivariate mechanisms driving the intent to succeed the family business, a binary logistic regression model was constructed. The overall robustness and goodness-of-fit of this predictive model were evaluated using a suite of standard statistical diagnostics, including the Omnibus test of model coefficients, the Hosmer-Lemeshow goodness-of-fit test, and pseudo R-squared metrics. Across all applied statistical tests, the threshold for statistical significance was firmly established at a p-value of less than 0.05.

3. Results and Discussion

The final sample consisted of 200 respondents, with a relatively balanced gender distribution (54.0 percent male, 46.0 percent female). The mean age was 22.4 years. A significant proportion of the respondents (45.5 percent) had completed senior high school, while 28.0 percent were currently enrolled in or had completed tertiary education. When assessing career aspirations, the data revealed a stark departure from traditional agricultural roles. Only 24.5 percent (n =

49) of the youth expressed a primary intent to take over their family's coffee home industry. The majority (61.0 percent, n = 122) indicated a strong preference for out-migration to seek employment in urban service sectors, government administrative roles, or the digital economy. The remaining 14.5 percent (n = 29) were undecided.

Table 1. Demographic Characteristics and Aspirations

Profiling youth (aged 16-30) in Pagaralam coffee home industries (N = 200)

CHARACTERISTIC / CATEGORY	FREQUENCY (N)	PERCENTAGE (%)
Gender Distribution		
Male	108	**54.0%**
Female	92	**46.0%**
Age Profile		
Mean Age (Years)	22.4	
Educational Attainment		
Completed Senior High School	91	**45.5%**
Enrolled in or Completed Tertiary Education	56	**28.0%**
Other / Below Senior High School	53	**26.5%**
Primary Career Aspirations		
Intent to Succeed Family Coffee Industry	49	**24.5%**
Out-migration (Urban service, government, digital)	122	**61.0%**
Undecided	29	**14.5%**

Note: Frequencies and percentages are derived from the cross-sectional survey data collected between March and August 2025. Missing educational data was categorized under "Other" to account for the full 100% distribution.

Table 2 delineates the descriptive statistics and Pearson correlation coefficients for the continuous and ordinal variables analyzed in this study. The sample comprises two hundred respondents with a mean chronological age of 22.41 years and a standard deviation of 3.12. The perceptual variables, measured on a five-point Likert scale, indicate that youth generally hold negative appraisals of the agricultural sector. Specifically, respondents reported high levels of perceived income volatility (mean score of 3.84, standard deviation of 0.76) and a pronounced belief that farming constitutes a low social status occupation (mean score of 3.65, standard deviation of 0.82). The bivariate correlation matrix demonstrates a significant positive relationship between perceived income volatility and perceived low social status (Pearson correlation coefficient of 0.45, p-value less than 0.01). Crucially, all correlation coefficients remain below the critical threshold of 0.70, confirming the absence of severe multicollinearity among the independent predictors prior to regression modeling.

Table 2. Descriptive Statistics and Pearson Correlation Matrix

Evaluating continuous and ordinal variables prior to predictive modeling (N = 200)

VARIABLE	MEAN	SD	MIN	MAX	1	2	3
1. Age (Years)	22.41	3.12	16.0	30.0	*1.00*	-	-
2. Perceived Income Volatility	3.84	0.76	1.5	5.0	0.12	*1.00*	-
3. Perceived Low Social Status	3.65	0.82	1.2	5.0	0.08	**0.45****	*1.00*

Note: SD indicates Standard Deviation. Perceptual variables (2 and 3) were measured on a 5-point Likert scale where higher scores indicate greater perceived volatility or lower perceived status.
** Correlation is significant at the p-value < 0.01 level (2-tailed).

To evaluate the factors influencing the likelihood of a youth choosing to remain in the agricultural sector, a binary logistic regression analysis was conducted. The baseline model (null model without predictors) correctly classified 75.5 percent of cases. The introduction of the five predictor variables resulted in a statistically significant improvement in model fit, as evidenced by the Omnibus Test of Model Coefficients (Chi-square = 52.34, degrees of freedom = 5, p-value < 0.001). The model demonstrated a strong fit, capturing a substantial proportion of variance in succession intent (Cox and Snell R-squared = 0.285, Nagelkerke R-squared = 0.428). The Hosmer-Lemeshow Goodness-of-Fit test indicated that the model adequately fit the data (Chi-square = 6.42, degrees of freedom = 8, p-value = 0.601). A non-significant Hosmer-Lemeshow test is desirable as it indicates no significant difference between observed and predicted values. The classification table revealed that the practical predictive power of the model improved to 84.0 percent overall accuracy (Sensitivity = 68.4 percent, Specificity = 89.2 percent). Finally, collinearity diagnostics confirmed no issues with multicollinearity among predictors (all Variance

Inflation Factors were below 1.8).

The logistic regression output (Table 3) identified several critical variables. The regression results demonstrate that educational attainment has a significant inverse relationship with the likelihood of agricultural succession. Youth with higher education levels are substantially less likely to remain in the coffee industry (Odds Ratio = 0.300), supporting Hypothesis 1. Furthermore, negative perceptions heavily influence the decision-making process. High perceived income volatility reduces the odds of succession by 68 percent (Odds Ratio = 0.320), supporting Hypothesis 2. The belief that farming carries a low social status reduces the odds by 55 percent (Odds Ratio = 0.450), supporting Hypothesis 3. Conversely, access to modernization technology serves as a powerful catalyst; youth who perceive the industry as technologically advanced and have access to modern processing tools are over three times more likely to pursue generational succession (Odds Ratio = 3.150), supporting Hypothesis 4.

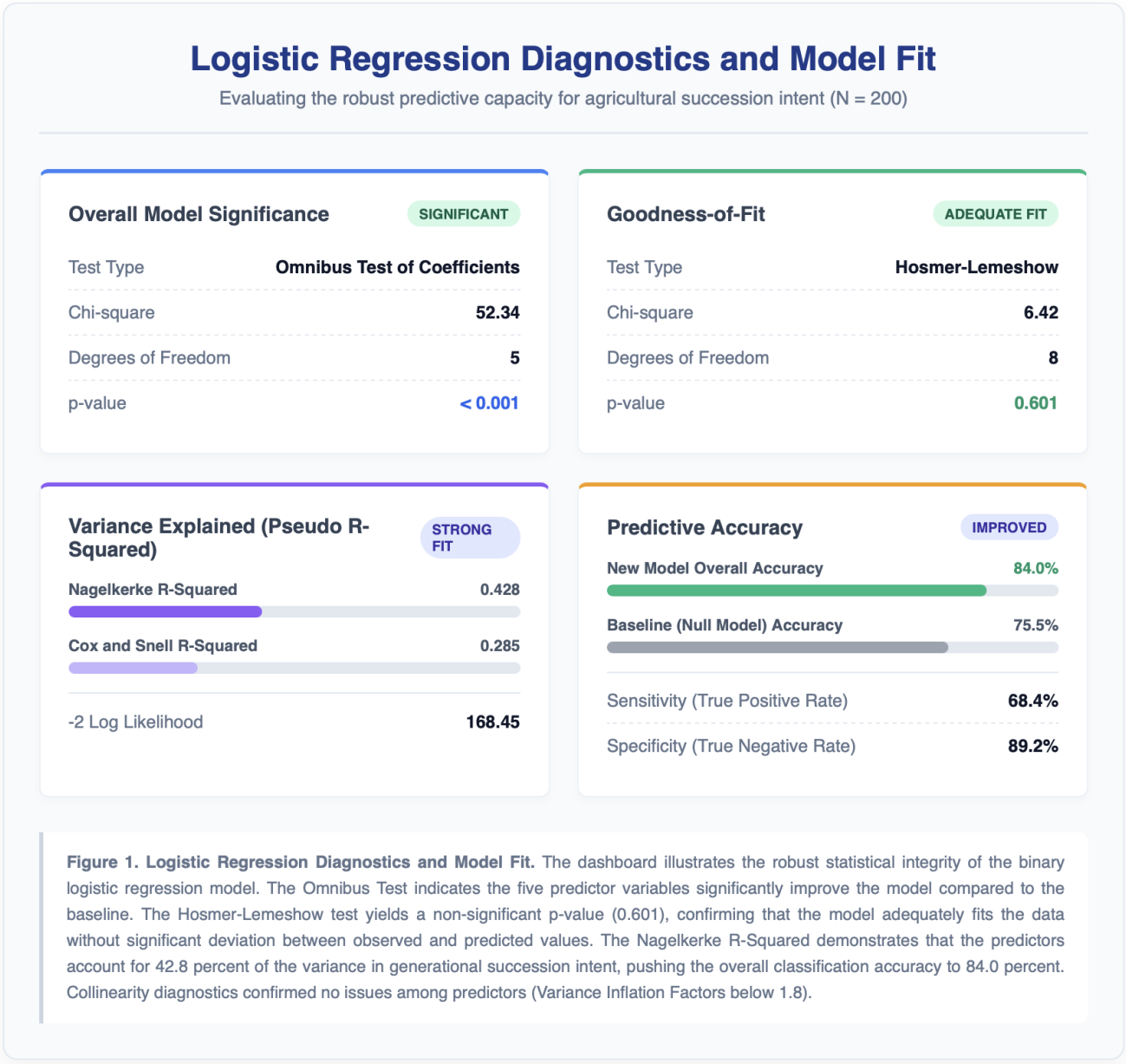

Figure 1. Logistic Regression Diagnostics and Model Fit. The dashboard illustrates the robust statistical integrity of the binary logistic regression model. The Omnibus Test indicates the five predictor variables significantly improve the model compared to the baseline. The Hosmer-Lemeshow test yields a non-significant p-value (0.601), confirming that the model adequately fits the data without significant deviation between observed and predicted values. The Nagelkerke R-Squared demonstrates that the predictors account for 42.8 percent of the variance in generational succession intent, pushing the overall classification accuracy to 84.0 percent. Collinearity diagnostics confirmed no issues among predictors (Variance Inflation Factors below 1.8).

Table 3. Binary Logistic Regression Predicting Intent to Succeed

Evaluating the socio-economic determinants of generational succession in the coffee home industry (N = 200)

PREDICTOR VARIABLES	BETA	S.E.	WALD	P-VALUE	ODDS RATIO	95% C.I.
Age Continuous scale, measured in years	-0.082	0.045	3.321	0.068	0.921	0.843 - 1.006
Education Level Categorical: 1 = Higher Education, 0 = Senior High School or below	-1.204	0.312	14.892	< 0.001	0.300	0.163 - 0.553
Perceived Income Volatility Continuous scale: Higher score indicates higher perceived volatility	-1.139	0.380	8.981	0.003	0.320	0.152 - 0.674
Perceived Low Social Status Continuous scale: Higher score indicates lower perceived social status	-0.798	0.345	5.349	0.021	0.450	0.229 - 0.884
Access to Tech Categorical: 1 = High Access to modern tools, 0 = Low/No Access	1.147	0.410	7.825	0.005	3.150	1.411 - 7.034
Constant Baseline intercept	2.450	1.205	4.134	0.042	11.588	-

Model Summary: Dependent Variable is coded dichotomously (1 = Intent to Succeed, 0 = No Intent/Out-migration).
Negative Odds Ratios (values less than 1.0, highlighted in red) indicate a decreased likelihood of succession. Positive Odds Ratios (values greater than 1.0, highlighted in green) indicate an increased likelihood of succession.
-2 Log Likelihood = 168.45; **Nagelkerke R-squared** = 0.428.

The empirical findings of this investigation serve to illuminate the deeply complex and multifaceted mechanisms underlying the agrarian dilemma within the Pagaralam coffee sector. The starkly low succession rate, wherein only 24.5 percent of the surveyed youth indicated a definitive intent to inherit the family enterprise, represents far more than a mere localized occupational shift; it signifies a severe structural and cultural rupture in rural employment paradigms. This phenomenon cannot be simplistically attributed to a generalized loss of traditional agricultural skills, a lack of intergenerational communication, or a localized deficit of entrepreneurial spirit. Rather, as the predictive modeling comprehensively demonstrates, this mass exodus from the agricultural sector is deeply rooted in the highly rational economic calculations and the profound socio-cultural reorientations of the contemporary youth demographic.[9-11] The conscious decision to abandon the multigenerational coffee home industry involves a complex calculus, weighing inherited tradition and agrarian stability against the modern imperatives of financial security, professional advancement, and societal prestige.

The quantitative data robustly suggest that the intersection of perceived income volatility and an expanding educational horizon acts as the primary systemic engine driving youth out-migration from the highland coffee sectors. The logistic regression analysis highlights a profound inverse relationship between educational attainment and agrarian succession. Viewed through the theoretical lens of

human capital theory, as rural youth attain higher levels of formal education, particularly at the tertiary level, their perceived opportunity costs for remaining in traditional, village-based agriculture increase exponentially.[12] The formal educational apparatus inherently socializes students toward urban, white-collar, or formalized industrial career trajectories, implicitly framing these centralized pathways as the definitive markers of upward socioeconomic mobility and personal success. Consequently, highly educated youth view returning to the family coffee enterprise not as a continuation of a proud lineage, but as a suboptimal utilization of their acquired human capital and a regression in their developmental trajectory.

Compounding this educational divergence is the acute, lived reality of financial precariousness. The extreme volatility of global coffee commodity markets places smallholder farmers and home-based processors in a highly vulnerable position as perennial price-takers at the very bottom of the global supply chain. When this international market instability is combined with the increasingly unpredictable weather patterns affecting the Sumatran highlands—driven by broader global climate change phenomena that severely disrupt traditional planting, flowering, and harvesting cycles—the resulting environment is one of chronic economic uncertainty.[13] Rural youth possess a lifetime of observational data regarding this precariousness; they have intimately witnessed the lifelong economic struggles, the seasonal debt cycles required to purchase fertilizers, and the immense physical toll exacted upon their parents. In direct response to this observed systemic vulnerability, the younger demographic actively seeks the stable, predictable, and salaried income structures definitively associated with urban corporate employment, government administration, or the burgeoning digital economy.[14]

Furthermore, the statistical analysis reveals that the mechanism of social stigmatization is highly correlated with succession reluctance, functioning as an equally potent driver of the agrarian dilemma. The empirical data clearly demonstrates that agricultural labor, even when it involves the entrepreneurial aspects of post-harvest processing and localized trade, is increasingly viewed by the youth through a pervasive deficit lens.[15] Within the rapid modernization narrative that characterizes contemporary Indonesian socio-economic development, traditional agricultural work has been inadvertently but systematically devalued. The ubiquitous proliferation of smartphones and high-speed internet in rural areas has exposed youth to highly curated, aspirational displays of urban lifestyles, creating a stark comparative disadvantage for the reality of village farming.

Despite operating family-owned home industries that possess immense latent potential for commercial expansion and specialty market penetration, youth often heavily conflate all coffee-related activities with backward, arduous, and unrefined manual labor. This psychological conflation strips the occupation of the prestige and social standing associated with modern professions. This cultural devaluation of agrarian work functions as a powerful, internalized psychological push factor. It creates a paradigm where occupational choice is driven not strictly by potential financial yield, but by the intense desire for peer validation and societal respect. The fear of being perceived as "left behind" in the village overrides the tangible, structural benefits of inheriting established landholdings, processing infrastructure, and deeply entrenched local business networks.[16] Consequently, rural out-migration becomes a necessary strategy for social status elevation and identity formation, rather than merely an economic imperative.

Despite these formidable structural and cultural barriers threatening the collapse of the local agrarian economy, the predictive modeling also identifies a critical, highly actionable mechanism for intervention: technological modernization. The remarkably strong positive correlation between access to technology and

the intent to succeed provides a crucial counter-narrative to the prevailing assumption that youth are irrevocably lost to the agricultural sector. The data strongly indicates that the younger demographic is not inherently opposed to the coffee industry itself, provided the sector can be fundamentally rebranded and operationally restructured as a modern, innovative, and technologically integrated enterprise.[17]

The infusion of advanced technology serves as a direct, highly effective antidote to the primary drivers of out-migration. Integrating smart farming techniques, utilizing Internet of Things sensors for soil moisture and ambient temperature control, deploying automated and climate-controlled fermentation and roasting machinery, and utilizing sophisticated digital supply chain management tools transforms the fundamental nature of the work. It shifts the operational paradigm away from exhaustive manual labor toward strategic agribusiness management and precision processing.[18]

Furthermore, the aggressive utilization of digital marketing platforms and electronic commerce allows young agrarian entrepreneurs to bypass traditional, often exploitative regional middleman networks. By establishing a digital presence, these youth can connect directly with specialized domestic coffee shops and international specialty consumer markets that are willing to pay premium prices for traceable, high-quality robusta. This technological modernization effectively aligns the agricultural sector with the digital fluency, creativity, and modern aspirations of the youth. By doing so, it simultaneously mitigates the deeply entrenched stigma of low social status by elevating the farmer to the role of a global agri-preneur and provides tangible, scalable pathways for value-added income generation, thereby neutralizing both the socio-cultural and economic push factors previously identified.[19]

While this study provides a robust, highly detailed snapshot of rural youth aspirations and the precise determinants of business succession in South Sumatra, several methodological limitations must be rigorously acknowledged to appropriately contextualize the findings. First, the cross-sectional quantitative design of the investigation inherently prevents the establishment of strict causal inferences; the statistical relationships identified by the logistic regression represent strong, significant associations operating concurrently, rather than definitive, temporal causality. Second, the reliance on self-reported psychological constructs utilizing Likert scales introduces the potential for social desirability bias and common method variance, whereby respondents might inadvertently align their stated career aspirations with perceived societal expectations regarding modernity and success. Finally, the necessary utilization of purposive sampling within the specific, specialized geographic, climatic, and cultural enclave of Pagaralam naturally limits the immediate external validity of the findings to a broader, highly heterogeneous national context.

To build upon this foundational empirical evidence, future research is critically required to conduct longitudinal panel tracking of these specific youth cohorts. Such longitudinal tracking methodologies would allow researchers to rigorously evaluate whether stated career aspirations and current succession intentions actually translate into concrete occupational outcomes, migration behaviors, and business realities over extended periods of time. Additionally, expanding the geographical scope of the inquiry by deploying probability sampling techniques across other major, distinct cash-crop producing regions throughout the vast Indonesian archipelago—such as the cocoa-producing regions of Sulawesi, the tea plantations of West Java, or the palm oil sectors of Kalimantan—would serve to powerfully validate the generalizability of these socio-economic mechanisms on a comprehensive macro-environmental level.[20]

4. Conclusion

The agrarian dilemma currently threatening the structural foundation of Pagaralam's coffee home industry is driven by a profound, systemic misalignment between traditional, historically entrenched agricultural practices and the rapidly evolving socio-economic aspirations of contemporary rural youth. The widespread reluctance among the younger demographic to engage in generational succession is not a symptom of apathy or a localized rejection of family heritage; rather, it is a highly rational, fundamentally adaptive response to the harsh realities of perceived income volatility, the systematically declining social prestige of agrarian labor, and the powerful pull of urban socioeconomic mobility facilitated by expanding access to higher education.

To ensure the long-term survival, sustainability, and economic vitality of these critical local economies, agricultural policymakers, regional governance bodies, and private industry stakeholders must enact an immediate and comprehensive paradigm shift. The window for effective intervention is narrowing rapidly as the current demographic of primary producers continues to age out of the workforce. There must be a decisive transition away from traditional, reactionary subsidy models that merely sustain poverty-level subsistence, moving urgently toward aggressive, forward-looking modernization strategies fueled by targeted capital investment.

By actively equipping the younger generation with advanced, mechanized processing technologies, comprehensive training in financial agribusiness management, and unfettered access to high-speed digital market infrastructures, the traditional coffee home industry can be successfully deconstructed and powerfully repositioned. Through targeted technological and educational intervention, this vital sector can be transformed from a stigmatized labor of last resort into a highly lucrative, prestigious, and sustainable entrepreneurial venture. Only by bridging the gap between agrarian tradition and digital innovation can the industry hope to retain the best and brightest of the rural youth demographic, thereby securing the future of the global coffee supply chain at its most foundational local level.

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