

How do young rural farmers use new media to improve business?

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Abstract. The utilization of new media plays a significant role in addressing the challenges agricultural entrepreneurs face. However, young rural farmers have not fully tapped into the potential of new media for their business development. This study explores how young farmers in Gunungkidul Regency, one of the economically disadvantaged areas in the Special Region of Yogyakarta, Indonesia, use new media and its impact on their agricultural businesses. The sample represented 50% of young farmers in Gunungkidul Regency and was selected using proportional random sampling. Data was collected through questionnaires and analysed using quantitative descriptive and linear regression. The findings indicated that new media was mainly used for information-seeking (61.46%), communication (64.73%), and transactions (67.85%). It was also found that the use of new media significantly influences the development of young farmers' agricultural businesses, with an R-squared score of 0.623. The statistical analysis showed an F-score of 175.44 with a significant level of 0.00%. The primary challenge in utilizing new media for business is the lack of skills in applying these tools effectively. To address this issue, it is recommended to provide training, support, and necessary resources to help young farmers better use new media for business growth.

1 Introduction

The agricultural sector plays an important role in development in Indonesia. The high contribution of the agricultural sector can be seen from the GDP data which is ranked second with an average annual contribution of 13.22% to Indonesia's GDP [1]. Meanwhile, the contribution of GDP from the agricultural sector in Gunungkidul Regency was ranked highest at 23.69 [2]. The high contribution was not directly proportional to the large interest of young people in becoming farmers. The youth who are interested in the agricultural sector is relatively small, so most farmers in Gunungkidul are old currently.

Data shows that the number of young farmers is still very small, namely 8.78% [3], and only a few are using information technology to support their farming. This is especially true of farmers in rural areas. The low number of young farmers is also followed by the low capacity of young farmers. They have not been able to compete during the rapid development of information technology. Fifty percent of young farmers use the internet for two to six hours

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a day, which is a relatively small percentage of new media users who support farming. These young farmers used the internet less frequently than the Indonesian norm. In terms of usage frequency, 54% of young farmers utilized the internet 10–20 times a day to help their agricultural businesses, while purchasing the monthly internet quota required cost roughly IDR 50,000–100,000 [4].

Gunungkidul Regency is an area with the highest poverty conditions in the Special Region of Yogyakarta. Its geographical condition, which mostly consists of limestone mountains, is an obstacle in developing agricultural businesses. In general, the agricultural sector has not been able to provide high added value both for income and farmer welfare. This is the reason that the interest of the younger generation in the agricultural sector is very limited, and it is difficult for them to pursue it. In terms of education, the workforce in the agricultural sector who did not go to school until they finished elementary school reached 66.42%, followed by graduates of First Level High School by 16.13% and graduates of Senior High School by 14.33% [2].

The use of technology is one of the keys to changes in the agricultural sector in the era of digitalization is the use of the internet by farmers. The potential of the internet at the farmer and rural levels in Gunungkidul Regency is 93.9%, most internet users access the internet through mobile phones. The number of farmers who use the internet is 35,292 people. Meanwhile, the number of farmers who did not use the internet over the past year was 196,425 people [5]. From the data, it can be seen that the application of appropriate technology is still slow to be utilized by farmers in the agricultural sector, which is only around 15.23% who use it.

The use of information technology in agriculture can increase agricultural productivity. The use of new media serves to find information, communicate and testify, as research [4]. The use of information technology can increase agricultural profits to become developed and modern, as research [6].

Young farmers have not optimized the use of technology for agricultural entrepreneurship, so it is necessary to further examine the use of new media among young rural farmers, know the dynamics of their farming, as well as know the influence of the use of new media on the development of young farmers in rural areas. It is hoped that with the optimization of this new media, it can increase income and reduce poverty in the Special Region of Yogyakarta.

Agricultural entrepreneurship is the management of business-oriented farming. Farmers in Indonesia mostly still tend to farm with traditional management, think less about profits and do not utilize existing potentials and opportunities. Farmers, particularly young farmers, must optimize their businesses in order to steer behavior toward better farming, better business, and better living due to the fast-expanding impact of new media. According to research, entrepreneurship can boost farmers' output and inventiveness in both the agricultural processing and on-farm aspects of their labor[7]. Productivity, creativity, business orientation and bargaining position cannot be separated from the spirit and entrepreneurial ability of a farmer because considering his strategic position as a farm manager. Young farmers, if young farmers are going to succeed, must have entrepreneurial skills and readiness for risk in business development.

Agricultural entrepreneurship is the management of business-oriented farming. Farmers in Indonesia mostly still tend to farm with traditional management, think less about profits and do not utilize existing potentials and opportunities. The rapidly growing effect of new media requires farmers, especially young farmers, to optimize their business so that they are able to direct behavior oriented towards better farming, better business and better living. Entrepreneurship is able to encourage the productivity and creativity of farmers' work both in the on-farm aspect and the processing of agricultural products, as research [7]. Productivity, creativity, business orientation and bargaining position cannot be separated

from the spirit and entrepreneurial ability of a farmer because considering his strategic position as a farm manager. Young farmers must have entrepreneurial skills and readiness for risk in business development.

Agricultural entrepreneurship needs to be developed so that farmers get profits and prosperity. Agricultural business development is carried out by identifying business opportunities, take advantage of business opportunities [8]. Young farmers increase their business by establishing networks of cooperation with other entrepreneurs [9]. Business development in this research is interpreted as identifying opportunities, taking advantage of opportunities, and increasing revenue.

2 Methodology

The study was carried out in July–December 2022 at Gunungkidul Regency, Yogyakarta Special Region, Indonesia. The study's target respondents were young farmers between the ages of 18 and 40. Purposively, research was conducted in five sub-districts, each of which served as research subjects. There are 108 farmers in all. The use of new media and the growth of young farmer companies were research variables. The development of young farmer enterprises involved opportunity identification, opportunity exploitation, and revenue growth, whereas the use of new media involved communication, information searching, and transaction execution. A five-point scoring system was used to assess the use for new media and the growth of young farmer businesses: never (1), rarely (2), sometimes (3), often (4), and always.

3 Result and Discussion

3.1 Farmer characteristics

Table 1. Characteristics of young farmers

Characteristics	Sum	Percentage (%)	Average
Age			
18-25	25	23.1	30.63
26-30	26	24.1	
31-35	27	25	
36-40	30	27.8	
Gender			
Man	108	100	
Woman	0	0	
Marital Status			
Marry	78	72	
Unmarried	30	28	
Education Level			
Primary School	4	0.03	
Junior High School	18	16	
Senior High School	77	71	
College	9	0.08	
Length Of Entrepreneurship (years)			
1-2	30	27.7	7
3-5	30	27.7	
6-10	44	40.7	
>10	4	3.7	

The internal characteristics of young farmers in Gunungkidul district from age, gender, education, and business experience can be seen in Table 1.

Based on Table 1, it can be interpreted that the average age of young rural farmers in Gunungkidul Regency is 30.63 years old, while young people who are interested in and pursue agriculture are all men (100%). As for marital status, they are married on average (72%), the average level of high school education (71%) and the length of business is around 6-10 years (40.7%). Average: Young rural farmers married young, so by the age of 30 they had a family. With the competence of high school education, they choose agricultural entrepreneurship because they continue their parents' business, they deliberately do not go to the city like other friends because they do not want to leave their families. This is in accordance with research [10], which states that most young farmers do not want to go to the city because they want to continue their parents' business and by living in the village feel that they have provided for their families. In addition to farming, comfort and happiness can be felt because they are close to family and peaceful rural life.

3.2 Characteristics of Farming

Young farmers in Gunungkidul Regency in general still choose on-farm agriculture over others. This is also in accordance with research [4] which states that young farmers prefer on farm because it is easy to market and so far in the environment around young farmers many choose the field on farm, especially vegetables.

Table 2. Characteristics of Rural Farming Business

Business Field	Sum	Percentage (%)
Cultivation	67	62.0
Processed	12	11.1
Cattle Farm	2	1.8
Agricultural Machinery Services	1	0.9
Farm Shop	10	9.2
Vegetable Trader	6	5.5
Seed Breeding	1	0.9
Chicken Livestock	3	2.7
Goat Farm	8	7.4
Orchid Cultivation	1	0.9
Agrotourism	2	1.8

Most youth choose entrepreneurship on farms (67%) over other business options (Table 2). Young farmers choose on-farm farming because of their low skills. Farming is a hereditary occupation they got from their parents. With relatively narrow land, they have to survive on mediocre income. This condition is quite alarming so that poverty in Gunungkidul ranks first in the Special Region of Yogyakarta. In this subsistence agriculture, farmers are faced with the uncertainty of farming. Farmers with traditional management have a low aware position. They cannot get a decent price, so they need to be supported by various parties through new approaches for economic and social protection in order to support the production and consumption of poor people's resources. Rural subsistence agricultural production can be increased if rural farmers have access to training on subsistence farming systems based on local knowledge and skills targeted at increasing agricultural yields [13].

Meanwhile, the biggest entrepreneurial problem in on-farm agriculture is the pest problem. Most young farmers are engaged in horticultural farming, especially chili and onion. The pest problem is the most difficult to overcome. In the field, it was found that most chili farmers had chili peppers affected by fusarium wilt and leaf spot. They have tried various efforts but have not succeeded either.

Furthermore, the capital problem is also relatively high. This condition occurs because young farmers are still finding it difficult to develop their businesses. They do not have the ability to borrow from bank because they do not have collateral and are not ready to bear the risk if they fail to harvest and suffer losses. This capital problem is a common problem faced by young farmers who do not have large capital capabilities because they have not started a business for a long time, as research [14] shows. They also haven't been trusted by banks.

3.3 Utilization of New Media in Agricultural Entrepreneurship

Young farmers use new media to support their agricultural businesses. The platforms chosen by young farmers are in Table 3.

Table 3. Social Media User Platforms

Social Media Platforms	Sum	Percentage
WhatsApp	94	87.03
Facebook	38	35.18
Instagram	11	10.18

Young farmers use new media to support their agricultural businesses. The social media platforms used by young farmers to support their business are WhatsApp, Facebook and Instagram. The platforms chosen by young farmers are in Table 3. The results of this study are in accordance with [13] and [14] research which states that the highest use is WhatsApp.

Table 4. Utilization of new media in agricultural business

Variables	Mean	Percentage (%)
Search for information	2.71	61.46
Communication	2.912	64.73
Transaction	3.13	67.85

Young farmers use new media to search for information, communication, and transactions in carrying out agricultural business activities. Table 4 shows that the most used is for transactions (67,85%). Transactions in this agricultural business are still very limited. Most young farmers carry out transactions using social media with individual consumers and have not yet transacted with companies or B to B as [15] opinion. To optimize profits, young farmers need to build networks with large, continuous markets such as companies, modern markets, etc.

3.4 Young Farmer Business Development

Farming business needs to continue to be developed to improve the welfare of farmers. Business development begins with identifying business opportunities, then continues by utilizing business opportunities and the last is increasing income. Business development is the highest effort in the context of business development at 66.77%, followed by increasing revenue (64.33) and the lowest is taking advantage of business opportunities (62.9). Various opportunities are carried out to develop the business. In the field, young farmers make efforts to identify opportunities by planting intercropping, increasing land area, and collaborating in planting new horticultural commodities such as fruit crops.

Table 5. Young Farmer Business Development

Variables	Mean	Percentage (%)
Identifying Business Opportunities	3.10	66.77
Take advantage of business opportunities	2,82	62.9
Increase revenue	2.80	64.33

The business development aspect begins with the identification of business opportunities. Young farmers identify business opportunities relatively often (66.77) (Table 5). In the aspect of asking consumers about product needs (76.28), while the lowest score was considering the online buyer segment (59.45). The condition of the Gunungkidul area which is mostly contoured by mountains and signals that tend to be less stable, the online segment is still not an option.

Young farmers relatively often take advantage of business opportunities (62.9). Making processed products that are in line with market demand (78.28), while the lowest score on doing good cooperation to maintain consumer confidence (49.8). This can be related to the selection of marketing channels that sell more through traders / collectors, so that young farmers tend not to communicate directly with consumers.

Young farmers have the passion to increase their agricultural business income. This is indicated by a score (64.33). Young farmers often seek to increase income. The highest effort was made by implementing creative agriculture (example: agrotourism, organic farming) (83, 35), while the lowest score was on unpreparedness in increasing the number of workers (49.95). Young farmers still tend to use their own and their families' labor, despite their small business scale, relatively low incomes, and narrow land areas.

3.5 The Effect of Utilizing New Media on Business Development

New media has a very important role in business development. Farmers can connect with markets, find capital information, use marketplace and others. In this study the use of new media has a very significant influence on business development, the magnitude of the influence is (R^2) 64.2%. This means that if the use of this new media can be optimized for rural youth farmers, then business development will be very rapid.

Table 6. The influence of the use of new media on business development

Variable	Regression Coeff	t-score	Sig.
The role of new media (x)	0.966	13.798	0.000
Constant	0.046	0.215	0.830
R-Square	0.642		
Adjusted R-Square	0.639		
F-Score	190.393		

The effect of using this new medium can also be seen from the significant F value ($p = 0.00$), which is ($F = 190.39$) greater than the F table (161). Based on Table 6, the regression equation of the effect of using new media on business development is: $Y=0.046+0.966x+e$

Based on the regression equation above, it can be explained that every increase in one unit of new media utilization, it can increase business development by 0.966 or 96.6%. While the other 4% was obtained from the influence of other factors that were not studied. This is in accordance with research [18] which explains that entrepreneurial behavior and the use of new media together can increase business and research [19] other research also explains that media utilization can increase sales [18].

4 Conclusions and Recommendation

The use of new media is key in business development. Young farmers use new media to find information, communicate and network. While business development includes looking for business opportunities, taking advantage of opportunities and increasing income. There is a significant influence on the use of new media on business development. Optimization of the media function in developing a business needs to continue to be done with interactive training

and mentoring. The biggest problem of young farmers in on-farm farming is crop pests and diseases and capital.

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